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28TH

ANNUAL REPORT

ON THE

Health of St. Helens,

For the Year ending Dec. 31st, 1900,

BY

F. DREW HARRIS,
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AND
Public Analyst.

St. Helens:
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1901.

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HEALTH COMMITTEE

OF THE

ST. HELENS CORPORATION,

NOVEMBER, 1900.

THE RIGHT WORSHIPFUL THE MAYOR (ALDERMAN J. FORSTER, J.P.), Chairman.
ALDERMAN J. MASSEY, J.P., Deputy-Chairman.
,, SIR DAVID GAMBLE, BART. C.B., J.P.
,, J. C. GAMBLE, J.P.
,, RICHARD PILKINGTON, M.P., J.P.
,, A. SINCLAIR, J.P.
COUNCILLOR H. B. BATES, L.S.A.
,, J. BURCHALL, J.P.
,, J. FISHER.
,, J. GREEN, J.P.
,, E. JOHNSON.
,, W. MOLYNEUX.
,, P. J. O'KEEFFE, L.R.C.P., L.R.C.S.

HOSPITALS SUB-COMMITTEE.

THE RIGHT WORSHIPFUL THE MAYOR (ALDERMAN J. FORSTER, J.P.)
ALDERMAN SIR DAVID GAMBLE, BART., C.B. J.P.
,, J. MASSEY, J.P.
COUNCILLOR H. B. BATES, L.S.A.
,, E. JOHNSON.

SANITARY SUB-COMMITTEE.

THE RIGHT WORSHIPFUL THE MAYOR (ALDERMAN J. FORSTER, J.P.)
ALDERMAN J. C. GAMBLE, J.P.
,, J. MASSEY, J.P.
COUNCILLOR H. B. BATES, L.S.A.
,, J. BURCHALL, J.P.
,, J. GREEN, J.P.
,, W. MOLYNEUX.

INFANT MILK SUPPLY SUB-COMMITTEE.

THE RIGHT WORSHIPFUL THE MAYOR (ALDERMAN J. FORSTER, J.P.)
ALDERMAN SIR DAVID GAMBLE, BART., C.B., J.P.
,, J. MASSEY, J.P.
COUNCILLOR H. B. BATES, L.S.A.

STATISTICAL SUMMARY FOR 1900.

POPULATION—Estimated to the middle of the year—

Males ...	46,171	Total ...	88,480
Females ...	42,309		
Natural increase during the year			1,184

MARRIAGES	576
Annual Rate of Persons Married per 1000 of the Population ...	6·50

BIRTHS	Males ...	1,592	Total ...	3,098
	Females ...	1,506		
Annual Rate of Births per 1000 of Population				35·01
Mean ,, ,, during years 1890 to 1899				38·6

DEATHS	Males ...	1,009	Total ...	1,914
	Females ...	905		
Annual Rate of Mortality per 1000	Males...	21·8	Total ...	21·63
	Females	21·3		
Mean Rate during years 1890 to 1899				21·4

Total Deaths from Zymotic Diseases	269
Annual Rate of Mortality from Zymotic Diseases	3·04
Mean Rate of Mortality from Zymotic Diseases for years 1890 to 1899	3·52

Infantile Mortality Rate, 1900	188
Mean Rate for years 1890 to 1899	173

MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

Town Hall,
St. Helens,
May 22nd, 1901.

To the Chairman and Members of
The Health Committee,
Corporation of St. Helens.

Gentlemen,

I have the honour to present to you the 28th Annual Report on the Health of the Borough of St. Helens, being the fourth issued since my appointment to be your Medical Officer.

This report deals with various statistics relating to the Public Health, and also with the work done by the Health Department during the year ending December 31st, 1900.

Since the majority of the statistics included in this report were prepared, the preliminary Census Returns have been published. They show that St. Helens has hardly increased in the proportion anticipated. The various rates will therefore be somewhat higher, but it has been found impossible to alter them. Next year I hope to deal with this in extenso.

The Birth-rate for 1900 was 35·01 per 1000, being 3·59 lower than the mean of the previous 10 years.

The Death-rate for 1900 was 21·4 per 1000, being 2·12 per 1000 above the previous year, and slightly higher than the rate for the preceding 10 years. Though this rate is undoubtedly high, it is not due to Diseases generally regarded as preventible. This is shown clearly in my remarks on the general mortality of the Borough.

I would particularly draw your attention to my remarks on the Infant Milk Depôt. This institution seems to have quite justified its installation, and the fact that other towns are following in our footsteps must be a matter of congratulation to you. Once again St. Helens appears in the role of a pioneer.

I would again draw your attention to my remarks on Typhoid Fever, and to the urgent necessity for draining and sewering the outlying portions of the Borough. It constitutes in my opinion the most urgent sanitary need of the Borough. During the year much progress has been made in this work, and I would most earnestly urge you to push it on with all expedition. The fact that during the year the fewest number of notifications from Typhoid Fever has been received since the adoption of the Notification Act should certainly be an encouragement to complete the work already begun.

In a year when Peripheral Neuritis, caused by arsenical beer, has been so rife in many towns, St. Helens is to be congratulated on its almost total escape.

During the year the work of the Health Department has progressed satisfactorily.

The report of the work done by the Special Inspector appointed to test drains, both of old and new property, merits, I think, your attention. It is a matter for regret that this work must necessarily be slow.

I wish again to acknowledge and thank you sincerely for the kindness and assistance which it has been my good fortune to receive from every member of the Committee—and especially the Chairman—during the year.

My thanks are also due to the Medical Practitioners in St. Helens for their assistance and cordial co-operation in all efforts to improve the Public Health.

I have further to report that the various officials connected with my department have discharged their duties satisfactorily and conscientiously.

I am, Gentlemen,

Your obedient Servant,

F. DREW HARRIS.

POPULATION.

The population of St. Helens at the middle of 1900 (June 30th) is estimated to have been 88,480 persons. Of this number 46,171 are males and 42,309 females

In a population growing so rapidly as that of St. Helens, there is always a probability of some error in estimating the number of its inhabitants even when this is done by the most reliable known methods. In such a town the necessity for a Quinquennial Census is much more apparent than in rural districts. Every year, therefore, since the last Census, has increased the chances of error in estimating the population, and as a necessary consequence has caused more or less fallacious mortality and other statistics.

The method adopted in arriving at the above figures is that used by the Registrar-General, and is based on the assumption that the same rate of increase has continued since 1891 as between 1881 and 1891—*e.g.*

Population, 1881	...	...	58,308*	(April)
,, 1891	...	...	72,413*	(April)
,, **1900**	...	...	**88,480***	(June)

* Population within the Enlarged Borough Area.

The above results may be checked by the following method—The number of inhabited houses is ascertained from the Rate-books, and this number is multiplied by the average number of persons per house at the last Census; thus the number of inhabited houses in St. Helens during 1900 was 15,534, and the average number of persons per house at the last Census was 5·77, giving a population of 89,631. It will thus be seen that the estimates arrived at by both these methods closely approximate. It seems probable, however, that the last figure is somewhat high, and I prefer to take that arrived at by the Registrar-General's method as the one on which to base the various rates for the year.

CAUSES OF INCREASE OF POPULATION.

The following figures show the various increases which have been registered as occurring in St. Helens during the past 17 years:—

Year.	Natural Increase.	Estimated Increase.	Increase due to Immigration.	Natural Increase Rate per 1000 of Population.
1884	1203	1321	118	19·4
1885	1062	1348	286	16·8
1886	1193	1379	166	18·5
1887	1030	1407	337	15·6
1888	1322	1440	118	19·6
1889	1236	1470	234	18·0
1890	1032	1504	472	14·7
1891	1094	1535	440	15·2
1892	1408	1574	166	19·2
1893	1236	1600*	364	16·4
1894	1482	1660	178	19·0
1895	1476	1710	234	18·5
1896	1339	1735	336	17·2
1897	1447	1774	327	17·4
1898	1621	1820	189	19·2
1899	1415	1858	443	16·3
1900	**1184**	**1892**	**708**	**13·4**

* This number does not include the increase which took place in the new area during 1893.

A natural increase of 1184 in our population of 88,480 is at the rate of **13·4** per 1000 per annum, against 16·3 in 1899. It will be noted that the natural increase during the year is the lowest of the decade.

In England and Wales during 1900 the natural increase was at the rate of 10·5 per 1000.

DISTRIBUTION OF THE POPULATION.

In the accompanying Table are given the Statistics relating to the Distribution and Density of the Population in the various Wards.

WARDS.	Population Census 1891.	Population estimated to June 30, 1900	Area of each Ward, 1900. Acres.	Ro.	Poles.	Persons per Acre in 1900.
Eccleston, North ...	8555	10453	234	2	30	44·6
Eccleston, South ...	6797	8926	617	3	32	14·4
Central	8219	9073	98	0	27	92·5
Windle, North ...	7481	9980	681	1	22	14·6
Windle, South ...	8438	9484	68	3	11	139·4
Hardshaw	9225	10966	341	0	0	32·1
Sutton, East ...	8250	9893	1300	2	18	7·6
Sutton, West ...	7418	9593	2424	1	22	3·9
Parr	8030	10112	1475	0	0	6·8
Whole Borough ...	72413	88480	7248	0	2	12·3

AGE DISTRIBUTION, 1900.

AGES.	CENSUS, 1891, Old Borough Area.	Estimated Population at each Age in the Extended Borough, 1900.
Under 1 year	2398	2976
1 to 2 years...	2143	2660
2 ,, 3 ,, ...	2140	2655
3 ,, 4 ,, ...	2068	2566
4 ,, 5 ,, ...	1967	2442
Total under 5 years	10716	13300
5 to 10 years	9221	11444
10 ,, 15 ,, ...	8334	10344
15 ,, 20 ,, ...	7441	9236
20 ,, 25 ,, ...	6582	8169
25 ,, 30 ,, ...	6023	7476
30 ,, 35 ,, ...	5129	6366
35 ,, 40 ,, ...	4465	5542
40 ,, 45 ,, ...	3674	4560
45 ,, 50 ,, ...	2685	3333
50 ,, 55 ,, ...	2434	3201
55 ,, 60 ,, ...	1620	2011
60 ,, 65 ,, ...	1407	1746
65 ,, 70 ,, ...	763	947
70 ,, 75 ,, ...	461	572
75 ,, 80 ,, ...	227	282
80 ,, 85 ,, ...	83	103
85 ,, 90 ,, ...	19	23
90 ,, 95 ,, ...	4	5
95 ,, 100 ,, ...	—	—
	71288	88480

BIRTHS.

The number of Births registered during 1900 was **3,098.** This number is 17 below that registered in 1899. The birth-rate, therefore, is **35·01** per 1000 of population. This is the lowest rate ever recorded in St. Helens.

In the following Table will be found the number of births registered during the years 1890 to 1900, and the birth-rate for each year.

YEAR.		1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.	Rate per 1000 per year.
1890		754	678	645	699	2776	38·9
1891		767	684	750	719	2920	40·7
1892		693	769	719	730	2913	39·7
1893		745	747	776	731	3029	40·1
1894		781	716	653	732	2882	37·0
1895		884	796	775	710	3165	39·8
1896		777	783	714	768	3042	37·4
1897		823	769	813	788	3193	38·5
1898		896	776	767	823	3262	38·4
1899		802	762	763	788	3115	35·9
Mean of 10 years ...		792	748	737	748	3029	**38·6**
1900	Males ...	**473**	**376**	**388**	**355**	**1592**	**35·01**
	Females.	**413**	**367**	**380**	**346**	**1506**	
	Total ...	**886**	**743**	**768**	**701**	**3098**	
	Rate per 1000...	**40·0**	**33·5**	**34·7**	**31·6**		

In England and Wales the birth-rate during 1900 was 28·9 per 1000 of the population, and is the lowest rate ever recorded; it is 1·2 per 1000 below the average rate of the previous ten years; that of St. Helens being as much as 3·6 below the mean of the previous ten years.

It will be observed, too, that during 1900, the highest birth-rate was again registered during the 1st Quarter. The remarkably low rate during the last quarter will also be noted.

Of the 3,098 children born during 1900, 1,592 were males, and 1,506 were females, this being in the proportion of 100 males to 94·5 females. At the Census of 1891 there were 100 males to every 91·7 females in St. Helens, whereas in England and Wales at the same period there were 100 males to every 106·4 females.

YEAR.	Birth Rates.			
	England and Wales.	St. Helens.	33 Great Towns.	25 other Large Towns.
1890	30·2	38·9	30·0	—
1891	31·4	40·7	32·5	30·9
1892	30·5	39·7	31·9	31·7
1893	30·8	40·1	31·9	31·8
1894	29·6	37·0	30·7	30·3
1895	30·3	39·8	31·3	31·3
1896	29·7	37·4	30·7	30·1
1897	29·6	38·5	30·7	30·0
1898	29·4	38·4	30·3	29·4
1899	29·3	35·9	30·1	30·2
Means ...	30·1	38·6	31·0	30·6
1900	**28·9**	**35·01**	**29·4**	**29·9**

In the Table given above are set out the birth-rates for the past 10 years in England and Wales, the 33 great towns, 25 other large towns, and St. Helens. The consistently high, though certainly diminishing birth-rate of St. Helens, compared with these, will be noted.

In Table E will be found the birth-rates for each of the 33 great towns in England and Wales, and it will be noticed that in only two of these towns—Gateshead and Sunderland—was the birth-rate higher than in St. Helens, and only in these towns was the rate over 35 per 1000 in 1899.

In Table F will be found similar statistics relative to the smaller towns, and it will be seen that two towns—Warrington and Hanley—had a higher rate than St. Helens, while the rate in West Bromwich was the same.

From the above figures it would appear that St. Helens is at length beginning to follow the country as a whole in a gradual reduction of its birth-rate. It may be, of course, that the reduction is only transitory, but under the circumstances it is certainly a matter for congratulation that the Health Committee are devoting so much attention to the saving of infant life.

ILLEGITIMACY.

St. Helens has always had a comparatively low rate of illegitimacy, so low indeed that probably it does not influence the mortality statistics to any appreciable degree as it does in some other districts.

Of the 3,098 births registered during 1900, 67 were illegitimate. This is in the proportion of 978·4 legitimate births and 21·6 illegitimate births in every 1000, or, in other words, 2·1% of the total births were illegitimate. This rate is almost the lowest ever recorded, in 1892 only, a lower rate being reached.

Year.	Legitimate.	Illegitimate.
1886	974	26
1887	971	29
1888	970	30
1889	975	25
1890	976	24
1891	974	26
1892	981	19
1893	974	26
1894	968·5	31·5
1895	975·0	24·9
1896	972·3	27·6
1897	976·5	23·4
1898	972·4	27·5
1899	977·9	22·1
1900	**978·4**	**21·6**

The above figures do not include the births which occurred in Whiston Workhouse.

It is satisfactory to know that the statistics for St. Helens regarding illegitimacy compare favourably with those of any other town in England, and are below the figures for the whole of England.

MORTALITY RATE.

The deaths of **1,914** persons took place during 1900 within the Borough of St. Helens. Of these **1,009** were males and **905** females. This number is equal to an uncorrected death-rate of **21·63** per 1000 of the population.

For comparative purposes certain corrections have to be applied as follows:—

I. To be deducted—	MALES.	FEMALES.	TOTAL.
(*a*) Deaths in Rainhill Asylum (Main Building)	74	42	116
(*b*) Deaths of Haydock patients at the Isolation Hospitals	1	1	2
(*c*) Deaths of patients at the St. Helens Hospital who were admitted from Districts outside the Borough...	0	0	0
(*d*) Deaths at the Providence Hospital under similar conditions ...	0	1	1
Totals ...	75	43	119

II. To be added—

	MALES.	FEMALES.	TOTAL.
(*a*) Deaths of St. Helens patients in Whiston Workhouse Infirmary	64	31	95
(*b*) Deaths at Old Wint, Small-Pox Hospital, of patients from St. Helens	0	0	0
(*c*) Deaths at Rainhill Asylum of patients from St. Helens	7	9	16
Totals	71	40	111

The corrected number of deaths is therefore 1,906, and the death-rate for St. Helens, with these corrections, is therefore **21·54** per 1000 of the population. This number is 2·12 per 1000 above the rate in the preceding year—*i.e.*, 1899, 19·42.

The death-rate for 1900 is also slightly above that of the preceding 10 years (21·5).

In England and Wales the death-rate during 1900 was at the rate of 18·3 per 1000 of the population, and this rate was ·1 per 1000 below the mean rate for the ten years—1890 to 1899.

On page 23 will be found the recorded death-rates for St. Helens during 30 years.

In Tables E and F (pages 24 and 25) will be found the Mortality Statistics in other towns. In comparing these with St. Helens,—the social conditions,—the age and the sex distribution,—and the nature of the staple industries in each town should be taken into consideration. It will, however, be noted in comparing the Mortality Statistics of St. Helens with those of the 33 great towns that the St. Helens death-rate is above the mean death-rate of these towns (21·5 against 19·5), and that there are only 6 towns with a higher mortality and 27 with a lower rate.

Again, in comparing the St. Helens death-rate with the 25 other large towns, it will be seen that there are only 4 towns with a higher rate and 21 with a lower rate—Middlesborough with 24·5 heading the list, and Northampton being at the opposite pole. This comparison is, however, somewhat crude, as the different age and sex constitutions of the populations of the various districts are not taken into account.

In former reports great stress has been laid on the influence which the age and sex constitution of a population exercises on the death-rate, and in the report for 1898 it was shown how these factors might be eliminated and the rates of different centres be accurately compared.

It is unnecessary to recapitulate these facts, and it will be sufficient merely to append the following table.

Subjoined is a Table showing accurate comparison between the death-rates for St. Helens with those for England and Wales, and also the comparative mortality figures for the years 1891—1900.

YEAR.	Crude Death-rates of St. Helens.	Standard Death-rate of St. Helens.	Factor of Correction.	Corrected Death rates of St. Helens.	Death-rates for England and Wales.	Comparative Mortality figures, England and Wales, = 1000.
1891	26·02	17·46	1·09679	28·53	20·22	1411
1892	20·55	"	"	22·53	18·98	1187
1893	23·46	"	"	25·73	19·17	1342
1894	18·02	"	"	19·76	16·59	1191
1895	21·08	"	"	23·12	18·73	1234
1896	20·24	"	"	22·19	17·19	1291
1897	21·0	"	"	23·03	17·43	1321
1898	19·06	"	"	20·9	17·6	1187
1899	19·42	"	"	21·3	18·33	1162
1900	**21·54**	"	"	**23·62**	**18·3**	**1291**

Thus taking the present year, the number of persons among whom 1000 deaths would have occurred in England and Wales would have given 1291 deaths in St. Helens. This is a poor comparative mortality figure and a good deal worse than the two previous years.

In Table G, on page 26, will be found the comparative mortality figures of the 33 great towns. It will be noted that in only 6 towns a higher comparative mortality figure is found than in St. Helens.

The death-rates in each Quarter of the past six years are seen below :—

	1895	1896	1897	1898	1899	**1900**
1st Quarter	19·5	19·6	17·0	20·0	20·0	**26·2**
2nd "	19·3	19·8	21·1	16·1	16·1	**19·6**
3rd "	22·9	19·9	23·7	22·9	22·9	**23·2**
4th "	22·4	22·8	22·2	19·3	19·3	**17·3**

It will be noted that in 1900 the heaviest death-rate occurred in the first quarter and not in the third quarter as usually happens. This fact was largely due to the prevalence of Measles, Whooping Cough, Influenza, and Pneumonia. The high rate in the third quarter was due, as heretofore, to the prevalence of Diarrhœa and Gastric Diseases.

The death-rates in the various Wards are shewn below:—

WARDS.	Death-rate 1895.	Death-rate 1896.	Death-rate 1897.	Death-rate 1898.	Death-rate 1899.	Death-rate **1900**.
Eccleston, North ...	22·1	19·5	20·6	23·1	19·1	**21·7**
Eccleston, South ..	11·7	14·5	16·7	11·3	13·3	**17·4**
Central	19·2	20·4	21·0	14·6	16·3	**19·7**
Windle, North ..	18·4	18·9	19·2	17·6	15·2	**18·1**
Windle, South ...	16·4	18·5	18·7	14·8	15·9	**17·9**
Hardshaw‡ ...	21·9 ‡	20·7 ‡	22·4 ‡	24·4 ‡	22·6 ‡	**21·0** ‡
Sutton, East† ..	17·1 †	16·9 †	16·9 †	15·6 †	17·9 †	**17·7** †
Sutton, West* ...	36·4 *	31·8 *	33·8 *	31·4 *	32·1 *	**35·2** *
Parr	22·3	23·1	19·6	21·1	24·0	**25·3**

* Including Deaths in Rainhill Asylum (main building) and in the Fever Hospital.
† Do. do. The St. Helens Hospital.
‡ Do. do. The Providence Hospital.

In comparing this Table with the one on page 10 showing the Distribution of population according to Wards, it will be noted that the two Wards in which there are the greatest number of persons to the acre are characterised with two of the lowest death-rates. This would appear to show that overcrowding, at least on space, has little to do with the high death-rate in St. Helens. At some future time I shall hope to make a more careful study of this fact.

The death-rates of Males and Females during the past six years are as follows:—

	Males.	Females.	Total.
1895	22·0	20 0	21·0
1896	20·8	19·5	20·2
1897	21·3	20·7	21·0
1898	20 9	17·7	19·3
1899	21·5	17·7	19·6
1900	**21·8**	**21·3**	**21·6**

The increase in the female death-rate will be noted, though the cause seems difficult of explanation.

From the foregoing tables and remarks it will be at once apparent that the year 1900 has been a bad year for St. Helens, the death-rate having been higher than in any year since 1893, and though the excessive rate of that year and of 1890 and 1891 has not been approached, still it calls for careful enquiry.

In table D at the end of this report will be found the whole of the deaths tabulated according to cause and age. Comparing this table with the similar one last year, when the death-rate was below the average, it will be found that the excess of deaths occurred from the following causes:— Measles (38), Scarlet Fever (17), Whooping Cough (15), Influenza (14), Cancer (11), Consumption (26), Old age (27), Convulsions (31), Pneumonia (62), Diseases of the liver (15), Heart Disease (10), while an actual decrease took place in the deaths from Typhoid Fever (24), Diarrhœa (23), other tubercular diseases (11), and Insanity (12). These various increases call for very little comment. Measles, Scarlet Fever, and Whooping Cough were all epidemic during the year, and considering their prevalence it is remarkable that the deaths from these diseases did not reach a higher figure. On the other hand the reduction in the deaths from Enteric Fever and Diarrhœa must be regarded as satisfactory. As regards the other diseases causing increased number of deaths, little can be done to influence them, but it is apparent that climatic conditions were the reverse of favourable from the great increase of deaths attributable to Pneumonia and Old Age.

Appended is a table showing the number of deaths from various groups of diseases for the years 1891-1900, together with the average for the nine years.

TABLE SHOWING ANNUAL NUMBER OF DEATHS FROM VARIOUS GROUPS OF DISEASES DURING PAST NINE YEARS.

		1891	1892	1893	1894	1895	1896	1897	1898	1899	Mean	**1900**
Zymotic diseases		278	234	425	191	276	326	388	285	278	298	**319**
Parasitic diseases		—	4	1	2	2	2	5	2	—	2	**3**
Dietic diseases		4	2	2	—	4	2	7	5	4	3	**7**
Constitutional diseases		249	203	210	216	241	230	234	219	222	225	**264**
Developmental ,, ...		106	89	84	74	122	96	101	114	99	98	**125**
Diseases of Nervous System	Local Diseases.	226	187	191	180	182	197	182	210	217	197	**237**
,, ,, Respiratory ,,		568	380	390	302	344	356	375	332	379	381	**439**
,, ,, Circulatory ,,		79	62	63	74	88	77	71	73	90	75	**100**
,, ,, Digestive ,,		79	105	147	116	146	150	148	154	157	126	**176**
Other local diseases ..		49	44	52	38	47	39	51	43	52	46	**54**
Deaths from violence		60	58	49	65	53	61	48	56	55	56	**52**
Ill-defined diseases		167	137	154	142	169	132	136	148	147	148	**138**
All causes		1865	1505	1769	1400	1674	1668	1746	1641	1700	1663	**1914**

The comparison is somewhat crude, as the population has increased from year to year, but in the main it shows the same facts as above stated.

The various diseases will be treated of more fully under their respective heads.

MORTALITY AT VARIOUS AGES.

In the following Table will be seen the Death-rates at each group during the years 1895—1900; also the Mean-rate at each age for the five years, 1895-9.

AGES.	Death Rate per 1000 of the Population at each Age Group.						
	1895	1896	1897	1898	1899	Means	1900
Under 1 year ..	215·4	197·8	207·2	198·5	168·95	197·5	**196·2**
1 to 2 years ...	79·5	69·5	83·4	77·3	71·8	76·3	**78·5**
2 „ 3 „ ...	20·5	29·0	31·7	20·4	22·3	24·7	**22·9**
3 „ 4 „ ...	9·5	20·7	21·2	13·4	15·1	15·9	**15·1**
4 „ 5 „ ...	9·1	10·2	14·8	8·9	6·6	9·9	**10·2**
5 „ 10 „ ...	5·4	6·0	5·0	3·1	3·5	4·6	**4·6**
10 „ 15 „ ..	3·8	2·7	1·5	2·9	2·8	2·7	**2·1**
15 „ 20 „ ...	4·5	3·4	2·8	4·0	2·9	3·5	**4·0**
20 „ 25 „ ..	5·5	5·8	5·2	5·2	5·2	5·3	**6·1**
25 „ 35 „ ...	8·2	8·2	8·5	7·7	8·7	8·2	**9·6**
35 „ 45 „ ...	14·4	14·5	11·3	12·4	15·8	13·6	**14·5**
45 „ 55 „ ...	21·4	21·1	26·8	21·1	24·3	22·9	**26·9**
55 „ 65 „ ..	35·0	38·0	32·8	40·1	41·2	37·4	**46·5**
65 „ 75 „ ..	79·2	74·7	78·7	61·8	96·8	78·2	**96·7**
75 „ 85 „ ...	167·6	138·4	138·8	114·1	117·0	135·1	**137·6**
Upwards of 85 years.	280·0	192·3	315·3	153·8	269·2	242·1	**285·7**
All under 5 years ...	71·7	69·8	76·2	68·2	60·7	69·3	**69·0**
All over 5 years ...	12·1	11·8	11·2	10·7	12·3	11·6	**13·2**
All ages	21·0	20·4	21·0	19·3	19·6	20·2	**21·6**

The causes of death at each age group and in each Ward are set out in Table D at the end of this Report.

From the above Table it will be noted that the death-rate at almost every age group was very much increased, especially was this the case in children under one and at the later ages.

MORTALITY AMONG CHILDREN UNDER ONE YEAR OF AGE.

The infantile mortality rate shows the number of deaths under one year of age per 1000 births. In 1900 it was **188**, as against 157 in 1899. In England and Wales the infantile mortality rate was 154.

Last year this rate was the lowest ever recorded in St. Helens and was lower than the country as a whole, and this fact was justly considered to be a matter for congratulation. This wonderful improvement has not been maintained, and though this is unfortunate, a minute analysis of the causes of infantile mortality does not in the least invalidate the conclusions arrived at last year.

Appended is a Table showing the infantile mortality rates for the past nine years in England and Wales, the 33 great towns, 67 large towns, rural districts, and in St. Helens.

YEAR.	INFANTILE MORTALITY RATE.				
	England and Wales.	St. Helens.	33 Great Towns.	67 Large Towns (other than the 33).	Rural Districts.
1891	149	180	167	161	—
1892	147	163	163	160	133
1893	159	196	181	173	139
1894	137	161	152	115	98
1895	161	181	182	141	114
1896	148	177	168	161	104
1897	156	181	176	169	110
1898	160	172	178	173	116
1899	163	157	182	179	145
Average of 9 yrs.	153	174	172	159	120
1900	**154**	**188**	**172**	**166**	**138**

It will be noted that the rate in England and Wales, and in the 33 great towns, was practically the same as the average for the past nine years; in the 67 large towns it was somewhat higher, while in rural districts and in St. Helens it was a good deal higher than the average for the past nine years.

By reference to Table E it will be seen that of the great towns, ten had a higher rate and 23 a lower rate. From Table F, where statistics relating to 25 of the large towns are set out, it appears that 10 have a higher rate and 15 a lower rate.

Coming now to a minute analysis of the infantile mortality in St. Helens, a Table has been prepared showing the death-rates per 1000 living under 1 year from the principal diseases incident to infant life during the past nine years. This Table has been calculated on the population under 1 year, estimated from the returns at the last census, and is not based on the number of births per annum. By this means a more accurate result is obtained and the influence of temporary fluctuations in the birth-rate is obviated.

Death Rates per 1000 Living under 1 Year.

Disease	1891	1892	1893	1894	1895	1896	1897	1898	1899	Avge.	**1900**
Measles	4·15	2 03	15.08	2·68	3·36	2·56	8·61	·70	1 37	4·5	**4·37**
Whooping Cough ..	7·47	4·05	3·17	9·95	1·87	12·44	2·51	3·51	5·15	5·57	**8·40**
Diarrhœa	21·58	23.62	44·46	11·49	23·18	16·83	30·51	31·59	21·29	24·95	**22·51**
Other Zymotics ..	2·07	·81	·79	·76	1·12	3·29	1·79	2·10	·34	1·45	**1·7**
All Zymotics ..	35·27	30·51	63·50	25·08	29·53	35·12	43·42	37·90	28·15	36·47	**36·98**
Tabes Mesenterica ..	10·79	9·73	5·95	3·83	5·23	6·58	8·25	5·26	3·09	6·52	**6·05**
Other Tubercular Dis.	4·56	3·24	2·38	2·68	3·74	3·66	5·02	3·86	4·12	3·70	**3·02**
All Tubercular Dis.	15·35	12·97	8·33	6·51	8·97	10·24	13·27	9·12	7·21	10·22	**9·07**
Premature Birth ..	21·58	20·27	20·24	16·47	28·05	21·59	16·87	23 51	18·54	20·79	**19·82**
Nervous System ..	26·56	30·41	25·40	22·21	25·80	21·96	23·33	19·65	18·20	23·72	**24·86**
Respiratory System	49·80	34.26	38·50	35·94	39 64	34·77	34·10	35·45	24·38	36·33	**29·23**
Digestive System ..	4·56	7·70	5·95	11·49	19·82	10·24	5·74	15 44	6·52	9·72	**9·74**
Enteritis	6·64	7·30	19 45	12·64	8·60	15 00	20·46	11·82	17·51	13·27	**21·17**
Debility	26·97	23·52	30·96	25·66	30·66	25·25	25·48	23·16	25·06	26·3	**20·83**
Marasmus	17·84	17·43	12·70	12·64	15·33	10·98	12·56	18·60	15·79	14·87	**16·12**
Other causes ..	8·30	7·70	8 33	9·57	11·96	12·81	12·20	5·96	7·55	9·37	**6·05**
Total Mortality ..	218·29	192·21	233·43	178·47	215·42	198·00	207·50	198·66	168·95	201·06	**196·2**

On comparing the rates for 1900 with those of previous years, it will be noted that the total rate for 1900, though considerably higher than in the previous year, is still below the average for the past nine years by 5 per 1000.

On examining the various items which constitute this total mortality the following facts will be noted:—Measles caused a high mortality, being only fractionally lower than the average; Whooping cough caused a mortality exceeding the average by 2·8 per 1000; diarrhœa was less fatal by 2·5 per 1000; other zymotics caused a mortality in excess of the average.

Taken as a whole zymotic diseases caused a mortality slightly in excess of the average. The mortality from Tabes Mesenterica and from other forms of tuberculosis were both below the average, and taken together show a reduced rate of 1·2 per 1000. Diseases of the nervous system caused a rate slightly higher than the average, while respiratory diseases were below the average by 7 per 1000. Diseases of the digestive system caused a mortality closely corresponding with the average, but the mortality from enteritis exceeded the average by nearly 8 per 1000. The rate caused by debility was below the average by nearly 6 per 1000.

Summarising these results it will be noted that there has been a saving of infant life from diarrhœa, from tubercular disease, and from diseases of the respiratory system. Though this saving is not so marked as in the previous year, it is still sufficiently noteworthy to form matter for congratulation. On the other hand work on the same lines as heretofore must be continued vigorously in the hope that the record of 1899 may become permanent if not actually improved.

MORTALITY RATE PER 1000 LIVING UNDER 5 YEARS.

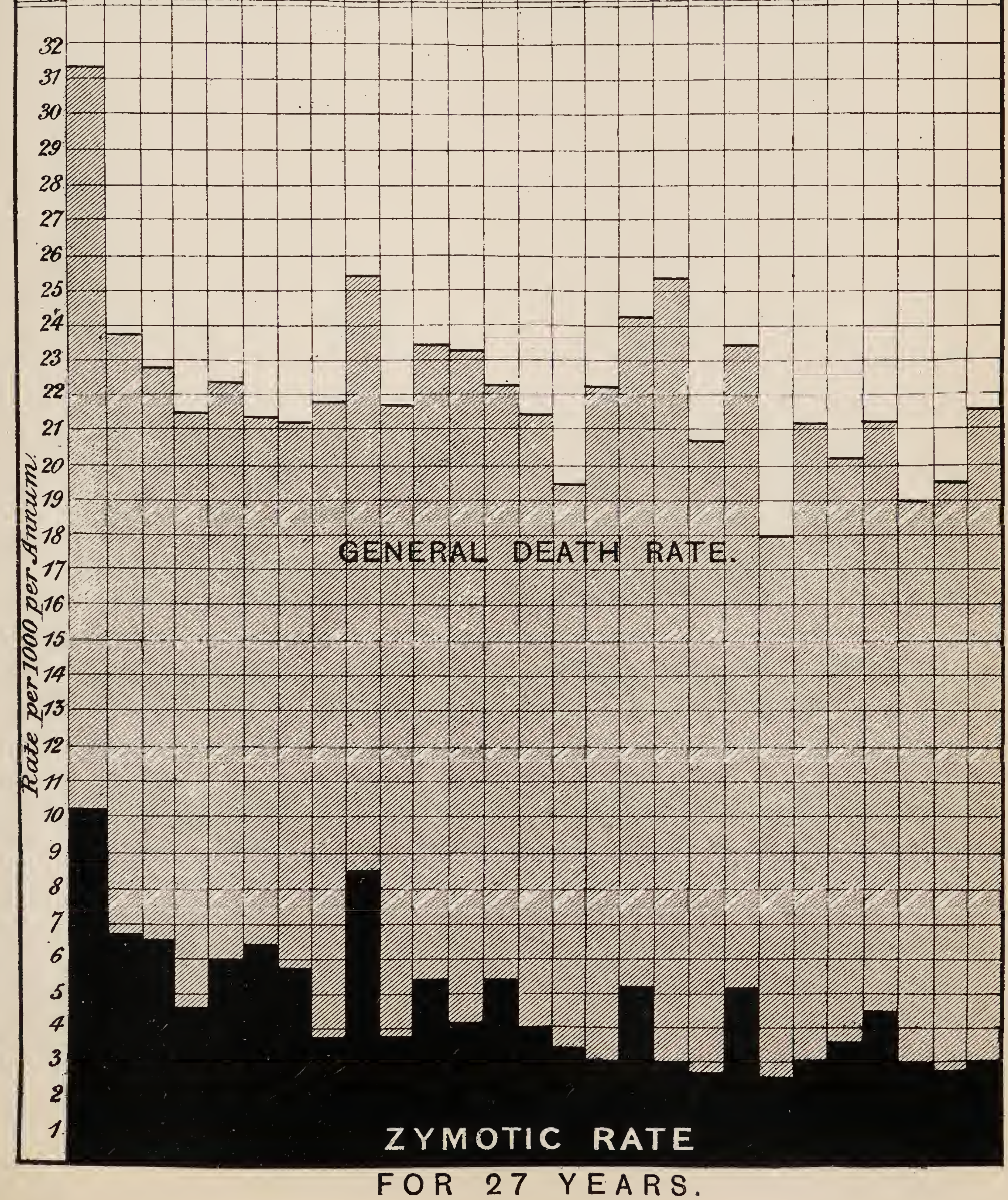
The mortality rate per 1000 living under 5 years in England and Wales, and St. Helens, for each of the past 5 years, is set out below:—

	1895	1896	1897	1898	1899	Average.	**1900**
England and Wales ...	59·0	54·9	55·2	55·8	55·5	For 4 years 56·0	—
St. Helens ...	71·7	69·8	76·2	68·2	60·7	For 5 years 69·3	**69·0**

It will be noted that the rate for 1900 is only slightly below the average of the past 5 years, and is considerably above that of England and Wales as a whole.

CHART No. 1.

Years	Birth Rate	Rainfall in inches	Mean Temp. Air	Highest Temp. Shade	Chief Zymotics
1874	46·30	27·8	48·6	82·3	Scarlet Fever.
75	45·42	30·1	48·4	78·0	
76	45·60	36·3	48·4	84·8	
77	44·33	41·7	48·3	79·0	
78	43·21	35·5	48·5	85·0	Diarrhœa
79	41·13	24·3	45·5	75·9	Measles.
1880	41·56	29·7	48·2	82·4	
81	43·52	36·7	46·9	84·2	
82	43·70	39·7	42·5	71·4	Measles.
83	40·69	34·8	48·0	74·9	
84	42·50	26·9	49·2	84·9	Measles. Diarrhœa
85	39·93	32·7	46·9	76·6	
86	40·70	33·0	47·3	77·1	Diarrhœa
87	37·00	21·1	47·0	82·9	
88	39·20	28·1	46·7	82·3	
89	39·86	25·8	47·8	78·0	
1890	38·90	27·0	47·8	76·6	
91	40·70	32·3	47·2	78·9	
92	39·77	34·8	46·6	78·9	Diarrhœa
93	40·10	25·7	50·1	75·0	Measles Diarrhœa
94	37·09	33·3	48·9	81·0	
95	39·80	28·0	47·2	80·2	
96	37·49	30·0	48·5	84·2	Scarlet Fever
97	38·51	33·6	48·7	84·4	Diarrhœa
98	38·49	27·1	49·7	79·9	Diarrhœa
99	35·97	30·5	49·1	85·0	Diarrhœa & Typhoid Feve
1900	35·01	33·0	49·1	80·3	Measles & Whooping Coug



FOR 27 YEARS.

Table showing the Vital and Mortal Statistics for St. Helens during 30 years.

YEARS.	Population.	Birth Rate.	Death Rate.	Zymotic Death Rate.	DEATHS FROM Small Pox.	Measles.	Scarlet Fever.	Typhoid and Continued Fever.	Typhus Fever.	Diarrhœa.	Whooping Cough.	Diphtheria.
1871	45400	..	27·29	9·4	..	..	..	..	..	..	..	..
1872	46510	..	20·46	4·9	65	14	6	24	3	65	16	3
1873	47630	46·65	23·63	5·03	4	19	92	24	2	79	9	15
1874	48790	46·30	31·43	9·2	0	29	231	25	1	110	41	14
1875	49970	45·42	24·69	5·3	0	4	77	65	1	101	31	10
1876	51190	45·60	23·28	5·1	0	102	21	40	1	86	7	15
1877	52430	44·33	22·84	3·2	0	2	12	34	1	74	48	11
1878	53700	46·21	23·99	4·2	0	4	22	40	0	132	15	20
1879	55010	41·13	22·40	5·7	0	143	83	34	2	52	2	3
1880	56340	41·56	20·05	4·6	0	0	27	40	2	130	71	1
1881	57711	43·52	21·69	2·92	0	14	28	56	0	76	3	3
1882	58972	43·70	25·46	7·4	0	250	36	33	1	85	36	6
1883	60263	40·69	21·65	2·5	0	3	14	31	1	69	24	11
1884	61584	42·50	24·16	5·3	0	131	16	33	2	131	9	11
1885	62932	39·93	23·32	3·5	0	81	13	7	1	56	53	11
1886	64311	40·70	22·46	5·2	0	102	34	28	0	122	41	10
1887	65718	37·00	21·69	3·9	0	53	35	34	0	101	28	11
1888	67158	39·20	19·80	3·1	0	38	11	22	0	65	61	21
1889	68628	39·86	23·50	4·18	0	78	3	81	1	85	15	29
1890	70132	38·90	25·43	5·3	0	19	181	24	1	74	68	13
1891	71666	40·70	26·02	3·0	0	54	24	26	0	78	29	9
1892	73240	39·77	20·55	2·64	1	23	18	25	0	84	31	12
1893	*75390	40·10	23·46	5·3	5	135	6	52	0	168	19	16
1894	*77690	37·09	18·02	2·21	0	21	14	26	2	38	61	10
1895	*79400	39·8	21·08	3·08	1	54	9	59	0	101	14	8
1896	*81136	37·49	20·24	3·63	0	38	59	40	0	63	78	17
1897	*82910	38·51	21·0	4·22	0	87	44	33	0	133	33	20
1898	*84730	38·49	19·3	3·09	0	17	24	30	0	140	34	16
1899	*86588	35·97	19·6	2·74	0	21	8	43	0	114	41	15
1900	***88480**	**35·0**	**21·6**	**3·04**	**0**	**59**	**25**	**19**	**0**	**91**	**56**	**19**

* These figures include Population in Area added 1893.

TABLE E.

TABLE COMPILED FROM THE REGISTRAR GENERAL'S QUARTERLY REPORTS, IN ORDER TO SHOW THE MORTALITY AND OTHER STATISTICS OF ST. HELENS, COMPARED WITH THE 33 GREAT ENGLISH TOWNS, IN 1900.

TOWN.	Population	Birth Rate per 1000	Death Rate per 1000	Infantile Rate per 1000 Births	Zymotic Rate per 1000
33 Towns	11,610,296	29·4	19·5	172	2·5
London..	4,589,129	28·6	18·3	158	2·1
West Ham	294,000	30·2	17·5	192	3·6
Croydon	131,186	24·9	14·6	132	1·4
Brighton	125,077	23·6	17·8	166	2·2
Portsmouth	194,955	25·7	17·2	157	2·3
Plymouth	102,161	27·8	20·5	174	2·2
Bristol	324,973	27·6	16·6	131	1·8
Cardiff	203,050	26·8	13·7	140	2·1
Swansea	102,785	27·5	17·4	174	2·2
Wolverhampton ..	89,598	33·5	22·3	207	4·4
Birmingham	519,610	32·7	21·0	199	2·7
Norwick	114,855	28·4	17·5	178	2·0
Leicester	219,169	28·2	17·4	174	3·5
Nottingham	242,676	27·3	19·1	196	2·3
Derby	107,991	26·8	17·1	174	2·3
Birkenhead	117,170	29·5	16·7	158	1·7
Liverpool	668,645	34·0	23·6	186	3·7
Bolton	164,240	29·0	19·5	170	2·3
Manchester	550,864	31·8	23·4	188	3·1
Salford	220,816	33·0	25·1	208	4·0
Oldham	153,297	24·1	19·5	172	2·4
Burnley	116,730	25·3	16·3	205	2·5
Blackburn	137,107	25·1	20·4	220	3·5
Preston	118,902	28·6	22·1	236	4·3
Huddersfield	104,484	22·8	16·8	132	1·5
Halifax	101,187	22·8	18·1	135	1·2
Pradford	291,535	23·0	16·3	140	1·3
Leeds	431,287	30·5	20·1	183	3·0
Sheffield	365,922	34·3	22·6	200	4·5
Hull	238,736	32·6	19·2	180	2·9
Sunderland	147,398	35·7	21·4	169	2·9
Gateshead	109,403	36·4	19·2	167	1·7
Newcastle	234,369	30·4	19·5	170	1·3
St. Helens ..	**88,480**	**35·6**	**21·6**	**188**	**3·04**

TABLE F.

TABLE SHOWING COMPARATIVE STATISTICS BETWEEN ST. HELENS AND OTHER SMALLER TOWNS DURING 1900.

TOWN.	Population.	Birth Rate per 1,000.	Death Rate per 1,000.	Infantile Death Rate per 1,000 Births.	Zymotic Rate per 1,000.
Southampton	107,713	27·2	16·9	152	1·4
Reading	72,328	26·1	14·2	144	1·7
Northampton	69,242	22·3	13·7	144	1·4
Hanley	61,833	37·6	22·0	209	3·9
Burton-on-Trent	53,330	26·0	18·3	143	3·1
Walsall	84,074	34·1	19·8	196	3·2
West Bromwich	64,000	35·0	19·8	196	2·5
Dudley	49,483	32·8	20·4	197	5·8
Aston Manor	80,497	31·2	15·8	167	3·4
Coventry	73,000	31·0	16·6	131	2·3
Grimsby	65,790	31·0	18·4	191	3·2
Stockport	82,440	27·8	21·4	203	2·6
Bootle	54,500	33·5	22·7	204	4·7
Wigan	63,400	34·4	21·9	190	2·6
Warrington	65,000	36·7	19·4	162	2·5
Bury	61,765	22·5	17·7	171	2·1
Ashton-under-Lyne	45,000	27·4	20·1	181	1·9
Rochdale	75,282	28·9	20·2	167	1·8
Accrington	46,632	23·8	14·7	138	1·4
Newport	75,088	28·6	16·7	170	2·4
Barrow-in-Furness	65,703	27·5	16·5	173	2·6
York	74,099	30·4	21·4	211	3·6
Middlesborough	97,007	34·4	24·8	198	1·6
South Shields	105,677	32·9	19·4	160	2·1
Rhondda Urban District Ystradyfodwg	129,028	34·6	16·9	186	3·7
St. Helens	**88 480**	**35·0**	**21·6**	**188**	**3·04**

TABLE G.

RECORDED AND CORRECTED DEATH RATES PER 1,000 PERSONS LIVING IN 33 GREAT TOWNS IN 1900.

Towns in the order of their Corrected Death-rates.	Standard Death-rate.	Factor for Correction for Sex and Age Distribution.	Recorded Death-rate, 1900.	Corrected Death-rate, 1900.	Comparative Mortality Figure, 1900.
England and Wales	19·15	1·0000	18·31	18·31	1,000
Do. (less the 33 towns)	19·46	0·9840	17·61	17·33	946
33 towns	17·72	1·0806	19·54	21·11	1,153
Croydon	18·37	1·0424	14·60	15·22	831
Cardiff	17·16	1·1159	13·77	15·37	839
Norwich	19·99	0·9579	17·57	16·83	919
West Ham	17·75	1·0788	15·93	17·19	939
Bristol	18·45	1·0379	16·66	17·29	944
Portsmouth	18·73	1·0224	17·28	17·67	965
Brighton	18·94	1·0110	17·84	18·04	985
Birkenhead	17·42	1·0993	16·82	18·49	1,010
Swansea	17·53	1·0924	17·07	18·65	1,019
Bradford	16·81	1·1391	16·41	18·69	1,021
Burnley	16·67	1·1487	16·30	18·72	1,022
Leicester	17·64	1·0855	17·43	18·92	1,033
Derby	17·36	1·1031	17·46	19·26	1,052
Huddersfield	16·47	1·1627	16·78	19·51	1,066
London	17·97	1·0656	18·79	20·02	1,093
Halifax	17·20	1·1133	18·12	20·17	1,102
Plymouth	19·70	0·9720	20·80	20·22	1,104
Gateshead	17·83	1·0740	19·02	20·43	1,116
Nottingham	17·81	1·0752	19·10	20·54	1,122
Hull	18·23	1·0504	19·75	20·75	1,133
Newcastle-on-Tyne	17·58	1·0892	19·51	21·25	1,161
Bolton	16·90	1·1331	19·45	22·04	1,204
Leeds	17·28	1·1082	20·00	22·16	1,210
Oldham	16·72	1·1453	19·55	22·39	1,223
Sunderland	18·25	1·0493	21·41	22·47	1,227
Blackburn	17·05	1·1231	20·48	23·00	1,256
Wolverhampton	18·30	1·0464	22·51	23·55	1,286
St. Helens	**17·46**	**1·09679**	**21·54**	**23·62**	**1,291**
Birmingham	17·33	1·1050	21·53	23·79	1,299
Sheffield	17·22	1·1120	22·59	25·12	1,372
Preston	17·42	1·0993	24·03	26·42	1,443
Manchester	16·90	1·1331	24·13	27·34	1,493
Liverpool	17·44	1·0980	25·66	28·17	1,539
Salford	17·03	1·1244	25·10	28·22	1,541

& ZYMOTIC DEATHS DURING 1900.

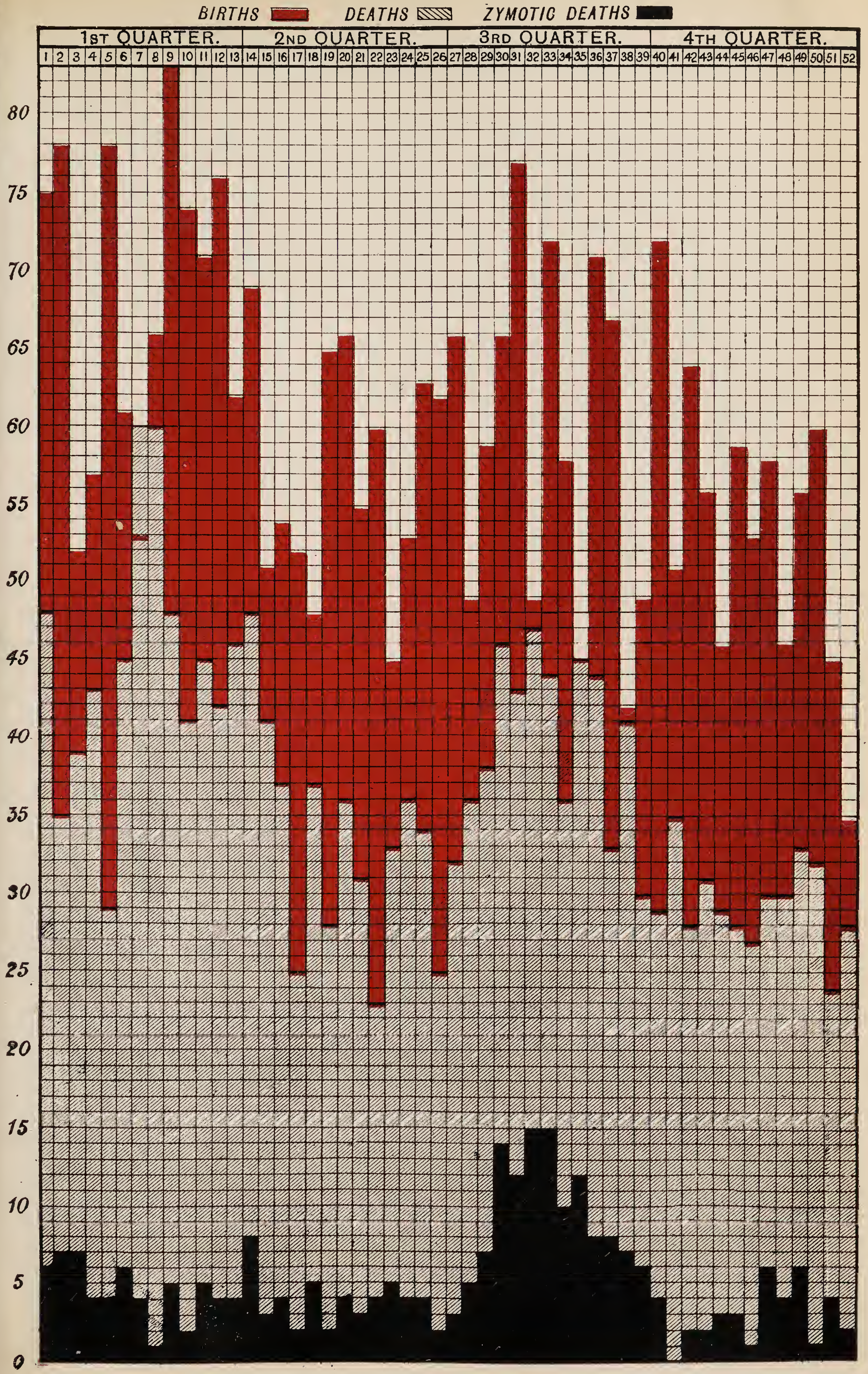


Table H.

WEEKLY RETURN OF BIRTHS AND DEATHS FOR 1900.

1900.		Deaths from all causes.	Annual Rate per 1000.	Deaths from seven principal Zymotics.	Annual Rate per 1000, for Zymotics.	Births.	Annual Rate per 1000, Births.
Week ending January	6	48	28·8	6	3·6	75	45·0
,, ,,	13	35	20·5	8	4·6	78	45·7
,, ,,	20	39	22·8	7	4·1	52	30·5
,, ,,	27	43	25·2	5	2·3	57	33·4
,, February	3	29	17·0	4	2·3	78	45·7
,, ,,	10	45	26·4	6	3·5	61	35·8
,, ,,	17	60	35·2	4	2·3	53	31·1
,, ,,	24	60	35.2	1	·58	66	38·7
,, March	3	48	28·1	7	4·1	83	48·7
,, ,,	10	41	24·0	1	·58	74	43·4
,, ,,	17	45	26·4	6	3·5	71	41·6
,, ,,	24	42	24.6	4	2·3	76	45·1
,, ,,	31	46	27·0	4	2·3	62	36·3
,, April	7	48	28·1	9	5·2	69	40·5
,, ,,	14	41	24·0	3	1·7	51	29·9
,, ,,	21	37	21·7	5	2·9	54	31·6
,, ,,	28	25	14·6	2	·58	52	30·5
,, May	5	37	21·7	6	3·5	48	28·1
,, ,,	12	28	16·4	2	1·1	65	38·1
,, ,,	19	36	21·1	4	2·3	66	38·7
,, ,,	26	31	18·1	3	1·7	55	32·2
,, June	2	23	13·5	4	2·3	60	35·2
,, ,,	9	33	19·3	5	2·9	45	26·4
,, ,,	16	36	21·1	5	2·9	53	31·1
,, ,,	23	34	19·9	4	2·3	63	36·9
,, ,,	30	25	14·6	2	1·1	62	36·3
,, July	7	32	18·7	3	1·7	66	38·7
,, ,,	14	36	21·1	5	2·9	49	28·7
,, ,,	21	38	22·3	7	4·1	59	34·6
,, ,,	28	46	27·0	14	8·2	66	38·7
,, August	4	43	25·2	12	7·0	77	45·1
,, ,,	11	47	27·5	15	8·8	49	28·7
,, ,,	18	44	25·8	15	8·8	72	42·2
,, ,,	25	36	21·1	9	5·2	58	34·0
,, September	1	45	26·4	12	7·0	45	26·4
,, ,,	8	44	25·8	9	4·6	71	41·6
,, ,,	15	33	19·3	9	5·2	67	39·3
,, ,,	22	41	24·0	7	4·1	42	24·6
,, ,,	29	30	17·6	6	3·5	49	28·7
,, October	6	29	17·0	4	2·3	72	42·2
,, ,,	13	35	20·5	0	0·0	51	29·9
,, ,,	20	28	16·4	2	1·1	64	37·5
,, ,,	27	31	18·1	2	1·1	56	32·8
,, November	3	29	17·0	5	2·9	46	27·0
,, ,,	10	28	16·4	4	2·3	59	34·6
,, ,,	17	27	15·8	1	·58	53	31·1
,, ,,	24	30	17·6	6	3·5	58	34·0
,, December	1	30	17·6	4	2·3	46	27·0
,, ,,	8	33	19·3	6	3·5	56	32·8
,, ,,	15	32	18·7	1	5·8	60	35·2
,, ,,	22	24	14·0	4	2·3	45	26·4
,, ,,	29	28	16·4	2	1·1	35	20·5

CAUSES OF DEATH.

THE ZYMOTIC DISEASES.

The mortality from the seven principal Zymotic Diseases, *i.e.*, Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (including Typhus, Typhoid, and Continued), and Diarrhœa, was at the rate of **3·04** per 1000 per annum during 1900.

In England and Wales the rate of mortality for this Group was 2·00 per 1000 per annum during last year.

The Zymotic rate of 3·04 during 1900, which was slightly higher than in the preceding year, was made up as follows :—

	1898	1899	1900
Small Pox	0·00	0·00	**0·00**
Measles	0·20	0·24	**0·66**
Scarlet Fever	0·28	0·09	**0·28**
Diphtheria	0·18	0·17	**0·21**
Whooping Cough	0·49	0·47	**0·63**
" Fever "	0·36	0·49	**0·21**
Diarrhœa	1·65	1·31	**1·02**
	3·09	2·79	**3·04**

Thus the mortality from Measles, Scarlet Fever, and Whooping Cough, is higher than in the preceding year, whilst that from " Fever " and Diarrhœa is considerably lower.

The following Table shows the yearly death-rate from Zymotic Diseases during each of the past 31 years, and also the rate ot each quinquennial period. It will be seen that there is a gradual diminution taking place in the number of deaths from this group of eminently preventible Diseases.

Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.
1870	5·5	1875	5·3	1880	4·6	1885	3·5	1890	5·3	1895	3·0
1871	9·4	1876	5·1	1881	2·9	1886	5·2	1891	3·0	1896	3·6
1872	4·9	1877	3·2	1882	7·4	1887	3·9	1892	2·6	1897	4·2
1873	5·0	1878	4·2	1883	2·5	1888	3·1	1893	5·3	1898	3·0
1874	9·2	1879	5·7	1884	5·3	1889	4·1	1894	2·2	1899	2·7
Mean	6·8		4·7		4·5		3·9		3·6		3·3

1900 ... ... 3·04.

In Tables E and F will be found the Zymotic rates for 1900 of other towns.

These rates are however not strictly comparable, owing to the fact that Medical Officers of Health include under the heading of Diarrhœa different causes of death, some including deaths from Enteritis, etc., others excluding these deaths. It should also be borne in mind that in working-class towns like St. Helens, Zymotic Diseases are not only more prevalent but also cause a higher mortality than in towns where the children are fewer and a larger proportion are well cared for.

Taking the comparison for what it is worth, however, it will be seen that among the great towns 9 have a higher rate and 23 a lower rate, while the St. Helens rate is slightly higher than that of the great towns taken as a whole ; among the 25 large towns, 9 have a higher rate and 16 a lower rate.

The relative prevalence of the diseases in this group in 1900, compared with the mean during the 28 years—1872-1899—is set out in the following Table:—

DISEASE.	Per cent. of Zymotic Deaths.	
	28 Years, 1872-1899.	**1900.**
Small Pox	·95	**0·00**
Measles	20·11	**21·93**
Scarlet Fever	14·77	**9·39**
Diphtheria	4·53	**7·06**
Fever	13·23	**7·06**
Whooping Cough ..	12·28	**20·81**
Diarrhœa	34·08	**33·83**
	100%	**100·00**

It will be seen, therefore, that the relative proportion of deaths from Whooping Cough was considerably in excess of the mean, whilst those from Measles and Diphtheria were slightly so; on the other hand Scarlet Fever, Fever, and Diarrhœa were below the mean to an equal extent.

The Zymotic rates during each of the 4 Quarters of the years 1892 to 1900 were as follows:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1892 ..	2·0 ..	1·2 ..	3 9 ..	2 4
1893 ..	6·4 ..	4·2 ..	10·3 ..	2·0
1894 ..	2·26 ..	1·39 ..	2·62 ..	2 57
1895 ..	2·00 ..	1 45 ..	6·06 ..	2·80
1896 ..	2·51 ..	4·19 ..	4·63 ..	3·20
1897 ..	1·44 ..	4·00 ..	8·20 ..	3 23
1898 ..	1·46 ..	1·79 ..	6·93 ..	2·17
1899 ..	1·38 ..	0·87 ..	6·55 ..	2·35
1900 ..	**2·66** ..	**2 26** ..	**5·51** ..	**1·71**

The high rate in the 3rd Quarter corresponds to the prevalence of Diarrhœa which occurred in August and September.

In Table D will be found certain details regarding the deaths from Zymotic diseases as to age groups and localities.

The following gives the number of deaths in each Ward during the eight years, 1893 to 1900:—

WARDS	Total Deaths from 7 Principal Zymotics in each year.								Persons per Acre.	Estimated Populati'n
	1893	1894	1895	1896	1897	1898	1899	**1900**		
Eccleston, North	55	20*	33*	50*	58*	53*	29*	**41***	44·6	10,453
Eccleston, South	34	16*	19*	18*	33*	11*	17*	**22***	14·4	8,926
Central	47	13	36	36	32	24	29	**29**	92·5	9,073
Windle, North..	32	14*	20*	25*	40*	23*	19*	**23***	14·6	9,980
Windle, South..	50	14	20	32	33	24	21	**17**	139·4	9,484
Hardshaw ..	40	35	19	31	36	29	26	**23**	32·1	10,966
Sutton, East ..	23	15	17	25	21	20	15	**25**	7·6	9 893
Sutton, West (†)	61	26	59	32	69	44	53	**47**	3·9	9,593
Parr	60	19	22	46	28	34	33	**42**	6·8	10,112
TOTALS ..	402	172	245	295	350	242	242	**269**	12·3	88,480

* Including Deaths in the Area added to these Wards in August, 1893.
(†) Including Deaths in Fever Hospital.

Appended is a Table showing the Yearly Number of Notifications, the Case Rate and Fatality Rate since the year 1892.

DISEASE.	1892.			1893.			1894.			1895.			1896.		
	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %
Small Pox ...	23	·31	4·34	40	·53	12·50	2	·02	·0	10	·12	·10	0	—	—
Scarlet Fever ...	438	5·98	4·10	237	3·14	2·53	342	4·40	4·09	222	2·70	4·05	1310	16·14	4·50
Diphtheria ...	77	1·10	14·81	68	1·04	23·3	80	1·10	10·4	60	·83	12·12	62	·88	23·61
Membraneous Croup	4			11			6			6			10		
Typhoid Fever ...	138	1·91	17·85	315	4·23	16·30	172	2·34	14·28	257	3·27	22·69	165	2·07	23·80
Typhus Fever ...	—			1			7			—			—		
Continued Fever ..	2			3			3			3			3		
Relapsing Fever ...	—			—			—			—			—		
Puerperal Fever ...	14	·19	50·0	19	·25	52·63	26	·33	23·07	17	·21	52·94	11	·13	63·63
Erysipelas ...	76	1·03	6·57	98	1·29	2·04	75	·96	2·66	69	·86	1·44	137	1·68	2·91

Disease.	1897.			1898.			1899.			Average.			1900.		
	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %	Notifications.	Case Rate per 1000.	Fatality %
Small Pox ...	0	—	—	0	—	—	0	—	—	8·3	·11	1·88	**0**	—	—
Scarlet Fever ...	914	11·02	4·81	385	4·54	6·23	335	3·8	2·38	488·1	6·07	4·90	**580**	**6'5**	**4'31**
Diphtheria ...	59	·79	30·30	50	·70	26·26	64	·74	20·31	72·3	·91	19·86	**77**	**'87**	**24'67**
Membraneous Croup	7			10											
Typhoid Fever ...	147	1·77	22·44	136	1·61	22·62	221	2·57	19·28	195·7	2·48	19·24	**123**	**1'40**	**15'32**
Typhus Fever ...	—			—			—						—		
Continued Fever ...	—			1			2						**1**		
Relapsing Fever ...	—			—			—						—		
Puerperal Fever ..	19	·22	52·63	7	0·8	57·14	9	·10	88·88	15·3	·27	59·40	**15**	**'16**	**60'00**
Erysipelas ...	162	1·95	1·85	173	2·04	1·73	121	1·39	2·47	107·6	1·33	2·79	**138**	**1'55**	**1'44**

Thus it will be seen that the Notifications and Case Rates were below the average of the past eight years as regards Small Pox, "Fever," Scarlet Fever, Diphtheria, and Puerperal Fever; they were slightly above the average as regards Erysipelas.

SMALL POX.

For the fifth year in succession no case of this disease was reported.

The cases of Small Pox which have occured in recent years in St. Helens are set out in the following Table.

	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
Cases of Sickness from Small Pox	0	1	0	23	40	2	10	0	0	0	0	0
No of Deaths	0	0	0	1	5	1	1	0	0	0	0	0

St. Helens may be considered well-equipped for dealing with any cases that may be imported in the future. As the subjoined Table shows, it is a particularly well vaccinated town, only an average of 3·6 per cent. per annum of the children born during the last 10 years being returned as unvaccinated, whilst even of this number a large proportion is accounted for by removals from the district. The growing practice of vaccinating with less than four marks must however be deprecated.

VACCINATION.

The following Table shows the Vaccination Returns for 11 years. It compares favourably with that of other towns.

YEAR	1 Births.	2 Vaccinated.	3 Insusceptible	4 Dead.	5 Con. Obje't'r	6 Postponed.	7 Removed	8 Unaccounted	Percentage not Vaccinated including Columns 6, 7, 8.
1889	*2721	2279	—	319	—	—	112	11	4·8
1890	*2669	2190	4	369	—	—	99	7	3·9
1891	*2827	2345	15	386	—	—	76	5	2·8
1892	*2817	2424	6	318	—	—	63	6	2·4
1893	*2856	2376	14	370	1	—	91	4	3·3
†1894	*2711	2283	10	310	1	—	100	7	3·9
†1895	*2943	2441	17	377	3	1	100	4	3·5
†1896	*3006	2534	14	355	—	4	94	5	3·3
†1897	*3209	2673	11	387	4	9	113	12	4·1
†1898	*3238	2679	15	383	17	15	118	11	4·4
†1899	*3126	2599	30	335	15	16	114	17	4·4

* The above Returns are for St. Helens Sub-District of the Prescot Union, which does not include quite the whole of the Borough.

† The Returns in Columns 6, 7, and 8, will still further be reduced for these years.

The above figures have been supplied by Mr. Welch, Vaccination Officer for St. Helens.

MEASLES.

Measles caused **59** deaths during the year, giving a death-rate of 0·66 per 1000, as against 0·24 in 1899, and 0·39 in England and Wales. Comparing this number with that in former years, we obtain the following figures:—

		1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	Mean of 15 years	1900
St. Helens	Tot. Deaths from Measles...	70	102	53	41	75	16	54	23	135	21	54	38	87	17	21	54	**59**
	Death Rate per 1000	1·11	1·58	·80	·61	1·09	·22	·75	·31	1·8	·27	·68	·46	1·04	·20	0·24	·81	**0·66**
England & Wales Death Rate		·52	43	·59	·34	·50	·43	·43	·30	·30	·37	·37	·55	·40	·42	·31	·42	**0·39**

The following Table shows the periods during which Measles, judged by the number of deaths, has been prevalent in each of the 19 years—1882 to 1900:—

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total Deaths in each year
1882	16	42	80	83	10	2	7	3	2	5	0	0	250
1883	0	0	0	0	0	1	1	0	0	0	1	0	3
1884	0	0	2	3	1	0	0	0	3	16	45	75	145
1885	36	10	10	3	2	5	2	1	0	0	0	1	70
1886	3	3	1	8	3	2	16	8	3	15	29	11	102
1887	4	2	6	6	2	1	1	4	1	6	10	10	53
1888	3	0	0	0	0	0	0	0	1	3	7	27	41
1889	10	13	8	11	5	11	3	3	1	7	2	1	75
1890	0	0	0	0	0	0	0	0	0	6	5	5	16
1891	4	3	3	14	11	6	3	0	2	3	5	0	54
1892	0	0	0	1	0	0	0	1	0	1	5	15	23
1893	31	31	31	28	5	4	2	1	2	0	0	0	135
1894	0	0	1	0	0	0	0	0	0	8	11	1	21
1895	3	10	5	3	2	11	9	6	1	1	3	0	54
1896	1	3	11	10	2	1	4	2	0	2	1	1	38
1897	0	1	2	2	15	19	9	8	6	3	13	9	87
1898	2	1	0	1	2	8	1	0	1	0	1	0	17
1899	0	0	0	0	0	2	0	0	1	5	4	9	21
1900	**19**	**9**	**6**	**9**	**5**	**2**	**3**	**5**	**1**	**0**	**0**	**0**	**59**
Totals...	132	128	166	182	65	75	61	42	23	81	142	165	1264

The epidemic of Measles, which commenced in the fall of 1899, continued in 1900 with increased severity. It seemed principally to be spread by means of the schools, and closure of the Infant Departments of several schools was resorted to. As in previous years, the closure of the department at once checked the spread of the disease in the particular school, but its influence on the epidemic generally seemed infinitesimal.

The system of Notification by the head teachers, introduced in 1897, worked very well during the year. By this means 828 cases were brought to the knowledge of the Health Department, and it was therefore possible to take steps to limit the spread of the disease; but out of these known cases there were only 59 deaths, giving a fatality rate of 7·1 %. This may be regarded as satisfactory.

The following Table shows the ages at which deaths from Measles occurred during the past nine years. From this it will be seen that Measles is essentially a disease of childhood, the maximum mortality being reached in the second year of life.

AGES AT DEATH FROM MEASLES—1892 TO 1900.

	1892	1893	1894	1895	1896	1897	1898	1899	**1900**	Total.
0 to 3 months ...	1	1	1	0	0	0	0	0	**1**	4
3 „ 6 „ ...	0	5	0	1	0	2	0	0	**1**	9
6 „ 12 „ ...	4	32	6	8	7	22	2	4	**11**	96
1 „ 2 years ...	12	59	9	26	14	32	12	8	**25**	200
2 „ 3 „ ...	3	15	2	11	11	19	2	7	**12**	82
3 „ 4 „ ...	1	10	2	4	3	3	0	1	**4**	28
4 „ 5 „ ...	1	6	0	1	3	6	1	1	**2**	21
5 „ 10 „ ...	0	4	1	3	0	2	0	0	**3**	13
Over 10 „ ...	1	3	0	0	0	1	0	0	**0**	5
Total at all Ages ...	23	134	21	54	38	87	17	21	**59**	396

The following Schools were closed during the year on account of the prevalence of Measles.

Infant Department of Parr Flat Schools for three weeks, from February 14th to March 7th.

Infant Department of British Schools, Sutton Road, for three weeks, from April 25th to May 16th.

Infant Department of Ravenhead Schools, Crossley Road, for three weeks, from April 25th to May 16th.

Infant Department of St. Patrick's School, Mount Street, for three weeks, from April 28th to May 19th.

Infant Department of Nutgrove Wesleyan Schools, for three weeks, from May 3rd to May 24th.

Infant Department of St. Joseph's Schools, Peasley Cross, for three weeks, from May 30th to June 20th.

Infant Department of Holy Trinity Schools, Peasley Cross, for three weeks, from July 11th to August 1st.

SCARLET FEVER.

Scarlet Fever was again prevalent in St. Helens during 1900. **580** cases of this disease were notified, of which **25** terminated fatally, giving a death-rate of **0·28** per 1000.

In England and Wales the death-rate was 0·12 per 1000.

On page 23 will be found the number of deaths from Scarlet Fever for each year since 1871. These figures, however, indicate very imperfectly the degree of prevalence of the disease, as it is evident, that at any rate in St. Helens, the degree of virulence of Scarlet Fever varies much from year to year.

The cases of sickness and death, together with the death-rates from Scarlet Fever during the years 1891-1900 are set out in the following Table:—

	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
Cases of Sickness	210	438	237	342	220	1310	914	385	335	**580**
No. of Deaths	24	18	6	14	9	59	44	24	8	**25**
Death Rate per 1000..	·33	·24	·08	·18	·11	·72	·53	·28	0·09	**0·28**
Mortality per 100 Cases	11·4	4·1	2·5	4·0	4·0	4·5	4·8	6·2	2·38	**4·3**

From the above Table it will be seen that in 1900 this disease was not so virulent as in former years, though more so than in the previous year. One case died in every 6·8 attacked in 1890, 1 in every 22·5 in 1896, 1 in every 20·75 in 1897, 1 in every 16·04 in 1898, 1 in every 42 in 1899, and 1 in every 23·2 in 1900.

AGE INCIDENCE.

The following Table shows the ages at which the notified cases and deaths occurred.

Scarlet Fever Notifications and Deaths at Various Ages.

	MONTHS.				YEARS.												
Ages	0–3	3–6	6–9	9–12	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–15	15–20	20 & over	Total.
Total No. of Cases Notified	0	2	4	5	29	54	57	69	50	57	48	41	36	79	30	19	580
	Under 1 year, 11								232								
	Under 5 years, 220																
Sickness Rate per 1000 of the Population at each age	Under 1 year, 3·6				10·9	20·3	22·2	28·2	20·2					7·6	3·2	·43	6·5
	Under 5 years, 16·5																
Deaths from Scarlet Fever at various ages	0	0	0	2	7	4	4	2	2	1	2	0	1	0	0	0	25
Percentage or Case Mortality ...	0	0	0	40·0	24·1	7·4	7·0	2·9	4·0	1·7	4·1	0	2·7	0	0	0	4·3
	Under 1 year, 18·1																
	Under 5 years, 8·6																

SEASONAL INCIDENCE.

The following Table shows the periods of greatest prevalence of Scarlet Fever during the past 6 years in St. Helens.

Year.	January	February	March	April	May	June	July	August	September	October	November	December	Total
1895	7	12	19	19	18	19	8	19	12	12	39	38	222
1896	32	53	38	41	80	87	78	105	126	249	220	201	1310
1897	123	91	118	82	70	39	40	41	68	89	78	75	914
1898	63	44	35	26	13	23	23	26	32	32	32	39	385
1899	47	37	27	28	18	26	27	23	21	34	31	16	335
1900	**38**	**21**	**15**	**36**	**46**	**43**	**43**	**38**	**54**	**86**	**83**	**77**	**580**

A minimum was reached in March, and from then on, the notifications remained at a fairly even level till September, when they began to increase more rapidly.

DISTRIBUTION OF SICKNESS CASES.

Wards.	No. of Cases of Sickness from Scarlet Fever.								
	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
Eccleston, North ...	58	32	29	12	231	188	54	19	**52**
Eccleston, South ...	28	35	29	19	214	90	37	14	**30**
Central	29	24	43	8	54	73	17	20	**52**
Windle, North ...	35	10	81	24	131	102	45	32	**90**
Windle, South ...	27	27	21	19	152	78	36	26	**31**
Hardshaw ...	43	17	46	45	163	89	75	47	**59**
Sutton, East ...	118	13	19	35	141	108	37	61	**71**
Sutton, West ...	48	35	35	25	103	90	18	48	**120**
Parr	52	44	39	35	121	96	66	68	**75**
Totals ...	438	237	342	222	1310	914	385	335	**580**

It will be noted that the largest number of cases occurred in West Sutton and North Windle, and that a larger number of cases occurred in all the Wards than in the previous year.

The year 1900 has proved a somewhat unsatisfactory one from the point of view of Scarlet Fever prevalence. The extensive epidemic which started in 1896 and continued through 1897, seemed to have gradually died down during the next two years. This decrease was maintained till March,

1900. In April a slight increase in the notifications was observed, and this was maintained till September, when the disease began to spread with great rapidity. All that could be done was done, and a large proportion of the cases were isolated in Hospital, but it was some three months before the weekly number of notifications lessened much. The cause or causes of the epidemic are difficult to find. No cases were traceable to any milk supply, and it seems probable that case to case infection was the main cause of the spread of the disease. The schools were undoubtedly in some measure to blame, but in so small a degree that it did not seem advisable to close them. There can be little doubt that unrecognised cases and cases discovered some days after the beginning of the illness are a fruitful source of the spread of this disease, one or two such cases being capable of largely undoing the good effects of hospital isolation in limiting the spread of the disease. Altogether 580 cases occurred in 442 houses.

In 354 houses only one case occurred, being 61% of the cases.
,, 53 ,, two cases occurred.
,, 22 ,, three ,, ,,
,, 9 ,, four ,, ,,
, 3 ,, five ,, ,,
,, 1 house seven ,, ,,

It will be apparent therefore that a large proportion of second cases occurred than has been usual.

In the 442 houses in which the disease occurred there were 679 children under twelve years of age, who were said not to have had Scarlet Fever previously, and who did not contract it during the year. This would seem to show, as indeed one's experience confirms, that reasonable care is taken in a large proportion of the houses to prevent the spread of the disease.

The precautions adopted to prevent the spread of Scarlet Fever were the same as in former years, and comprised (1) Visit of Female Sanitary Inspector; (2) Removal to Hospital; (3) Disinfection and Supply of Disinfectants, &c.; (4) Exclusion from School of all children from infected households.

During 1900, 343, or 60 % of the cases, were removed to Hospital, as against 71 % in the previous year. Considering the number of cases notified and the fact that during the summer part of the Hospital had to be closed, this is a very satisfactory proportion.

Out of the 343 cases removed to hospital 12, or 3·5 % died, while out of the 237 remaining at home 13, or 5·5 % died. It is thus apparent that not only is the Hospital of great use in preventing the spread of the disease, but that removal almost doubles the chances of the patient's recovery.

As to the efficiency of the means of disinfection employed, the following statistics have been worked out. The total number of houses in which Scarlet Fever occurred was 442. In some of these the house was disinfected immediately after the patient or patients were removed to hospital; in the rest of them, after the recovery of the patient or patients. In 6 houses, fresh cases occurred within 7 days after the disinfection. All of these may be looked upon as cases having received infection before the disinfection of the premises was done. In 15 other houses, second cases occurred at periods varying from 7 days to 4 weeks after the disinfection. That is to say—that assuming the infection in each of these cases to have been derived from imperfectly disinfected articles within the house, and not from fresh infection imported, the disinfection was more or less imperfect in 3·4 % of the cases. When it is remembered how exceedingly tenacious of life is the infection of Scarlet Fever, and how many are the ways in which it is capable of being spread, the above results are most satisfactory.

HOSPITAL RETURN CASES OF SCARLET FEVER.

By this term is meant those cases of Scarlet Fever which occur in houses after the return home of cases of Scarlet Fever from hospital, and which may be due to the importation of infection from the hospital.

The Medical Officer of Health, of Manchester, who has carefully investigated the subject, suggests as an explanation of return cases, that a child, coming from a Scarlet Fever Ward, carries in the nasal cavities certain infective material, notwithstanding that the peeling of the skin, and discharge from ears and nose have ceased, and that the utmost care has been taken to disinfect all clothing. This explanation seems a probable one, but as the result of experience gained during the past year, it would appear that in many cases the cause should rather be looked for, not in the child returned from hospital, but in some article of clothing worn by it previous to removal, which has been put away and escaped disinfection, and is brought out again on the child's return.

The number of cases are so small annually as not materially to militate against the use of a Hospital for the isolation of cases of Scarlet Fever, and it is probable that some means may be found of lessening the number of such cases.

During 1900 three cases occurred in houses within seven days of the return of other cases from hospital—a most satisfactory result.

DIPHTHERIA.

The death-rate from this disease was **0·21** per 1000 of the population of St. Helens during 1900. In England and Wales it was 0·29 for the same period.

The following Tabular Statements show the deaths and cases of sickness per annum, and the distribution of the cases of sickness:—

Year.	1890*	1891	1892	1893	1894	1895	1896*	1897*	1898	1899	**1900***
Cases of Sickness.	104	77	81	79	86	66	72	66	60	64	**77**
Deaths	13	9	12	18	9	8	17	20	16	15	**19**
Fatality... ...	11·7	13·0	14·8	23·3	10 4	12·1	23·6	30·3	26·6	23·4	**24·6**

* Years in which Scarlet Fever was epidemic.

Distribution of Cases of Sickness from Diphtheria and Membranous Croup.

Wards.	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**	Total
Eccleston, North	8	14	9	7	10	6	9	4	9	**6**	82
Eccleston, South	3	3	6	8	5	1	4	4	1	**10**	45
Central ...	9	5	7	5	3	6	4	4	3	**8**	54
Windle, North...	15	6	13	20	13	12	6	8	2	**12**	107
Windle, South ..	10	15	6	3	6	9	6	2	3	**2**	62
Hardshaw ...	4	6	16	9	10	12	14	10	14	**4**	99
Sutton, East ...	8	10	15	9	4	6	9	10	14	**14**	99
Sutton, West ...	7	12	4	10	6	10	3	5	3	**6**	66
Parr	5	10	3	15	9	10	11	13	15	**15**	106
Totals ...	69	81	79	86	66	72	66	60	64	**77**	720

The largest number of cases occurred in Parr, East Sutton, North Windle, and South Eccleston Wards.

It seems not improbable that a certain proportion of the cases notified as Diphtheria are not true Diphtheria, especially is this the case at the later ages.

The number of notified cases and the percentage mortality at each age group was as follows:—

Age.	Number of Cases.	Percentage Mortality.
Under 1 year	4	50%
1 and under 5	36	44·4%
5 „ 10	12	8·3%
10 and upwards	25	0%

BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

The work commenced in 1893 of aiding the Medical Attendant in diagnosing doubtful cases by the bacteriological examination of a piece of membrane, or of a swabbing from the throat, was continued during the year.

CHART No. 2.

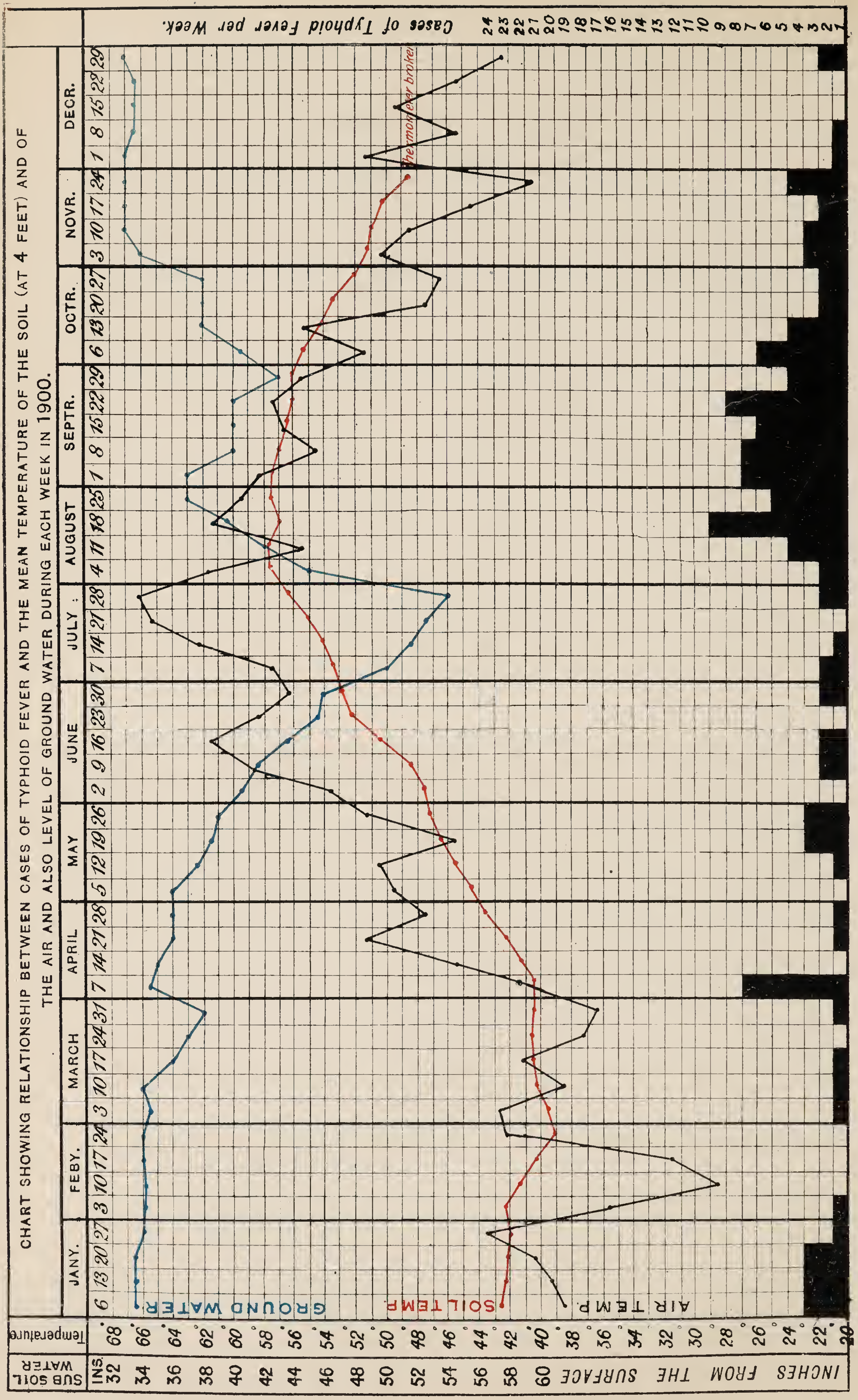


CHART SHOWING RELATIONSHIP BETWEEN CASES OF TYPHOID FEVER AND THE MEAN TEMPERATURE OF THE SOIL (AT 4 FEET) AND OF THE AIR AND ALSO LEVEL OF GROUND WATER DURING EACH WEEK IN 1900.

WHOOPING COUGH.

This disease caused **56** deaths during the year, equal to a death-rate of **0·63** per 1000, as against 0·47 per 1000 in the preceding year.

In England and Wales the rate was 0·34 per 1000 during 1900.

In former years the deaths from this disease were as follows:—

1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
41	28	61	15	68	29	31	18	61	14	78	33	34	41	56

The deaths were all of children under 10 years of age, and were as follows:—

0 to 3 months	3
3 ,, 6 ,, ...	3
6 ,, 12 ,, ...	19
1 ,, 2 years	21
2 ,, 3 ,, ...	2
3 ,, 4 ,, ...	2
4 ,, 5 ,, ...	5
5 ,, 10 ,, ...	1

The cases were distributed over the Borough as follows:—

Eccleston, North	11
Eccleston, South	2
Central	2
Windle, North	2
Windle, South	4
Hardshaw	6
Sutton, East...	10
Sutton, West	7
Parr	12

The number of deaths in each Quarter of this highly infectious disease was as follows:—

12 deaths occurred in the 1st Quarter.
17 ,, ,, ,, 2nd ,,
17 ,, ,, ,, 3rd ,,
10 ,, ,, ,, 4th ,,

At the present time practically nothing is done in St. Helens or in other towns to reduce the mortality and the serious damage to health which this disease causes. There are features in the natural history of the disease which render the usual preventive measures unavailable to a large extent. When children suffering from this disease are everywhere allowed to go about in public places, it is not to be wondered at that so many cases occur.

TYPHOID FEVER.

The death-rate from Typhoid Fever was at the rate of **0·21** per 1000, being 0·24 below the mean for the previous 10 years. In England and Wales the rate was 0·17 per 1000.

The number of cases of sickness from this disease notified was **123**, being 98 below the number reported last year, and 99 below the mean number reported annually since 1889. This number is the smallest ever recorded since the adoption of the Notification Act. The case-mortality is also lower than in the last few years, being 15·4, against 19·4 and 22·0 in the two preceding years.

The following Table shows the number of cases of sickness and the death-rates from Typhoid Fever in each year since 1880:—

Year.	No. of Cases of Sickness.	Death Rate.	Fatality %	Year.	No. of Cases of Sickness.	Death Rate per 1000.	Fatality %
1880	No. of Cases not known.	·70	—	1890	150	·34	18·0
1881		·97	—	1891	185	·36	13·97
1882		·55	—	1892	138	·34	17·85
1883		·51	—	1893	315	·68	16·30
1884		·53	—	1894	172	·33	14·28
1885		·11	—	1895	257	·74	22·69
1886		·43	—	1896	166	·49	23·80
1887		·51	—	1897	147	·39	22·44
1888	—	·32	—	1898	136	·36	22·62
1889	558	1·18	14·5	1899	221	·49	19·4
Mean.	—	·58		Mean.	188	·45	
		1900			**123**	**·21**	**15·4**

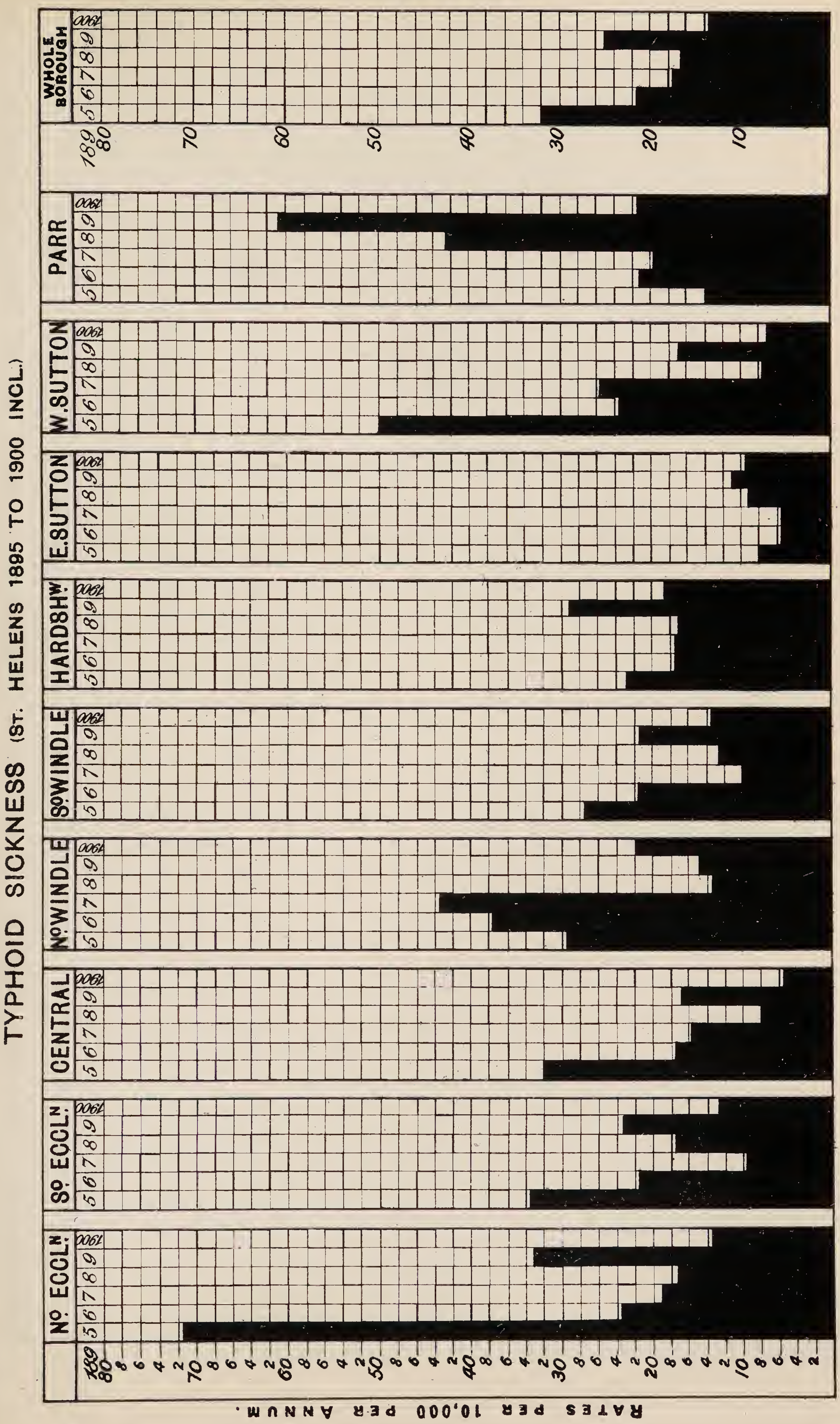
It will be noted that in the present year, a smaller number of cases of Typhoid Fever was notified than ever before.

The following Table shows the distribution of deaths in St. Helens during the past 14 years:—

WARDS.	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**	Total.
Eccleston, North	5	7	16	6	—	1	4	2	6	4	3	4	2	—	63
Eccleston, South	1	1	8	4	2	3	5	3	5	2	1	—	2	**1**	41
Central	7	3	7	3	4	1	2	2	2	3	—	3	—	**1**	39
Windle, North..	2	2	7	2	3	—	6	2	3	7	4	1	1	**2**	44
Windle, South..	3	1	15	2	1	5	2	—	3	3	—	2	2	—	45
Hardshaw......	5	2	4	3	2	2	4	5	1	4	3	2	2	—	43
Sutton, East....	4	1	12	2	1	3	3	1	2	2	—	—	—	—	36
Sutton, West* ..	3	3	9	2	12	6	18	10	34	10	20	16	29	**14**	191
Parr	4	2	3	—	1	4	8	1	3	5	2	2	5	**1**	45
Totals	34	22	81	24	26	25	52	26	59	40	33	30	43	**19**	547

* Including Deaths in the Sanatorium.

CHART No. 3.


TYPHOID SICKNESS (ST. HELENS 1895 TO 1900 INCL.)
WHOLE BOROUGH
PARR
W. SUTTON
E. SUTTON
HARDSHW.
SO. WINDLE
NO. WINDLE
CENTRAL
SO. ECCLN.
NO. ECCLN.
5 6 7 8 9 1900
189 80
70
60
50
40
30
20
10
RATES PER 10,000 PER ANNUM.

As in former years the largest number of deaths occurred in the 3rd and 4th Quarters, as is seen below.

Year.	Deaths 1st Qtr.	Deaths 2nd Qtr.	Deaths 3rd Qtr.	Deaths 4th Qtr.	Total.
1891	3	6	16	11	36
1892	5	6	6	8	25
1893	12	1	17	22	52
1894	13	2	4	7	26
1895	12	2	19	26	59
1896	4	5	15	16	40
1897	3	4	16	10	33
1898	5	3	12	10	30
1899	11	3	21	8	43
1900	**2**	**3**	**7**	**7**	**19**
Totals.	70	35	133	125	363

The distribution of Typhoid Fever is shown in the accompanying Table, where also the number of cases occurring in each of the months of the preceding 9 years is set out. It will be noted that the largest number of cases occurred in the months of August and September.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1891	5	5	18	17	11	3	4	31	32	30	16	13	185
1892	7	9	10	18	9	5	14	11	13	11	21	10	138
1893	10	11	18	0	3	10	26	41	73	70	34	19	315
1894	19	11	18	9	6	5	15	17	25	24	11	12	172
1895	9	9	10	2	9	9	12	37	42	43	53	22	257
1896	9	9	7	2	8	7	17	21	34	22	24	8	168
1897	6	11	7	4	5	4	2	43	27	15	18	5	147
1898	6	4	8	7	4	6	7	10	27	32	16	9	136
1899	11	9	9	9	5	6	11	21	80	39	11	10	221
1900	**10**	**1**	**4**	**9**	**7**	**6**	**5**	**24**	**27**	**13**	**13**	**4**	**123**
	1st Qtr. 1900 **15**			2nd Qtr. 1900 **22**			3rd Qtr. 1900 **56**			4th Qtr. 1900 **30**			

The following Table shows the distribution of the Notified Cases over the Borough during each of the last 11 years :—

Wards.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	Average.	1900
Eccleston, North ..	22	52	17	36	21	68	22	18	17	34	31	**14**
Eccleston, South ..	22	36	20	22	17	25	18	7	15	20	20	**11**
Central	14	9	12	19	16	27	14	13	7	15	14	**5**
Windle, North ..	16	11	13	51	29	26	34	40	13	14	21	**22**
Windle, South ..	10	26	22	40	12	24	19	9	11	20	19	**13**
Hardshaw	9	13	18	57	22	23	16	16	16	31	22	**20**
Sutton, East	14	8	19	10	26	8	5	5	9	11	11	**9**
Sutton, West	24	18	9	33	10	43	20	21	7	16	20	**7**
Parr	19	12	8	47	19	13	20	18	41	60	26	**22**
Whole Borough ..	150	185	138	315	172	257	168	147	136	221	189	**123**

The Sickness rates per 1000 of the population in each Ward for the 10 years—1891 to 1900—as well as the average for the previous 9 years are set out in the following Table :—

SICKNESS RATES PER 1000 OF THE POPULATION IN EACH WARD.

WARDS.	1891	1892	1893	1894	1895	1896	1897	1898	1899	Avge. 9 yrs.	**1900**
Eccleston, North	6·08	1·94	4·02	2·28	7·17	2·29	1·83	1·69	3·22	3·73	**1·34**
Eccleston, South	5·42	2·91	3·09	2·29	3·37	2·19	·83	1·75	2 28	2·68	**1·23**
Central ..	1·07	1·45	2·29	1·92	3·24	1·68	1·52	·80	1 68	1·74	**0·55**
Windle, North ..	1·68	1·96	7·57	3·74	2·97	3·71	4·27	1·36	1 43	3·18	**2·20**
Windle, South ..	3·08	2·59	4·67	1·39	2·78	2·18	1·01	1·21	2·15	2·34	**1·37**
Hardshaw ..	1·40	1·89	5·85	2·23	2·30	1·59	1·55	1·52	2 88	2·36	**1·82**
Sutton, East ..	1·07	2·04	1·23	3·03	·85	·55	·53	·94	1 13	1·26	**0·91**
Sutton, West ..	2·18	1·08	3·93	1·18	5·03	2·27	2·44	·76	1 70	2·28	**0·73**
Parr	1·49	·96	5·46	2·16	1·45	2·15	1·89	4·23	6 06	2·87	**2·17**
Whole Borough	2·59	1·88	4·20	2·23	3·23	2·07	1·78	1·60	2·55	2·49	**1·37**

It will be noted that in each Ward the Case Rate was below the average of the previous 9 years, and that with the exception of North Windle was below the rate of the previous year. During 1900 the chief incidence of the disease was manifested in Parr and in North Windle.

The following Table shows the ages at which the various cases of Sickness and Death from Typhoid Fever occurred :—

	Under 5 Years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	Over 55	Total.
Cases of Sickness ..	5	37	46	38	9	4	4	123
Deaths ..	1	3	6	4	1	0	4	19
Percentage Mortality **1900**	**20·0**	**8·1**	**13·0**	**22·2**	**11·1**	**0·00**	**100·0**	**15·4**
Do. 1899 ..	27·2	15·5	16·1	15·4	30·0	20·0	62·5	19·4
Do. 1898 ..	18·1	2·7	23·6	25·0	43·7	75·0	33·3	22·0
Do. 1897 ..	23·0	12·1	19·4	35·4	25·0	30·0	25·0	12·4
Do. 1896 ..	14·2	13·9	20·7	38·2	36·8	0·0	60·0	23·8

I have been enabled, by the courtesy of the various Medical Officers of Health, to obtain the following figures.

Table showing the number of cases of Enteric Fever and the rate per 1000 of the population in several large towns and in St. Helens :—

Town.	No. of Cases of Typhoid Fever notified.	Sickness—Rate per 1000 of the population.	Town.	No. of Cases of Typhoid Fever notified.	Sickness—Rate per 1000 of population.
London	4312	·94	Leeds	466	1·08
West Ham	344	1·17	Sheffield	514	1·40
Croydon	56	·42	Hull	207	·80
Portsmouth	1064	5·45	Sunderland	301	2·04
Plymouth	127	1·24	Gateshead	48	·43
Bristol	293	·90	Newcastle	79	·30
Cardiff	91	·40	South Shields	71	·67
Swansea	83	·80	Northampton	69	·99
Wolverhampton	195	2·18	Rhondda Urban	172	1·3
Birmingham	851	1·65	Dist. Ystradyfodwg		
Norwich	175	1·52	Middlesborough	96	·98
Leicester	123	·56	Southampton	77	·71
Nottingham	512	2·11	Aston Manor	145	1·80
Derby	122	1·13	Coventry	48	·65
Birkenhead	164	1·39	Newport	53	·70
Liverpool	744	1·1	Stockport	77	·90
Bolton	208	1·2	Rochdale	30	·39
Manchester	378	·69	Bootle	97	1·77
Salford	335	1·50	Wigan	104	1·64
Oldham	72	·47	Warrington	62	·95
Burnley	65	·55	Barrow	77	1·17
Blackburn	157	1·14	Bury	40	·64
Preston	162	1·36	West Bromwich	113	1·76
Huddersfield	53	·50	Hanley	71	1·1
Halifax	79	·78	Dudley	85	1·71
Bradford	319	1·09	**St. Helens**	**123**	**1·38**

It will be seen that in 13 of the towns set out above a higher rate occurred than in St. Helens, while 37 had a lower rate. This is much more satisfactory than heretofore, as three years ago St. Helens headed the list. Much, however, remains to be done.

The almost only bright spot in the year 1900 was the comparative freedom of the Borough from Enteric Fever. Never since the adoption of the Infectious Diseases Notification Act have so few cases been notified, the nearest approach being the year 1898. Judging also by the death rate, it would appear from the Table on page 42 that only once (1885) in the past 20 years has a lower death-rate been recorded. These figures certainly afford matter for congratulation and justify the opinion expressed in the 1898 report that the efforts of the Health Committee to cope with this disease—so long the scourge of the Borough—are at last bearing visible fruit.

As in previous years, a large proportion of the cases occurred in privy-midden houses, as many as 55, or 46 per cent. being so found. 36 per cent. of the cases were found in houses served with pails, whilst only 18 per cent. occurred in water-closet houses. Defective drains were also found in a large proportion of the cases, and there can be little doubt that the pollution of the subsoil with excremental matter containing the specific organism is mainly responsible for the prevalence of Enteric Fever in St. Helens. No case was traceable to milk or water.

The type of the disease also was undoubtedly milder than for some years, and by reference to the Table on page 42 it will be seen that the fatality-rate or case-mortality rate was considerably lower than in any year since 1894.

From the Table on page 43 it will be seen that very few cases occurred up to the end of July. For the next two months the disease was fairly prevalent, and then gradually subsided.

Chart No. 2 is appended—as in former years—to show the weekly number of cases of Typhoid Fever, the temperature of the soil at four feet, the mean temperature of the air, and the level of the subsoil water in inches from the surface. Again will be noticed a relationship between the soil temperature and the rise in the number of Enteric cases; the number rising steadily with the rise of the temperature of the soil above 56° and falling as steadily with the fall of the temperature.

Chart No. 3 shows graphically the Enteric Fever rates for each Ward, and also for the whole Borough, for the years 1894-1900. The usual spot map is appended showing the distribution of the cases during 1900.

By reference to Chart No. 3, to the spot map, and to the more extended figures to be found on page 44, the distribution of Enteric Fever in the Borough since 1891 will be seen. All the Wards had a case-rate below the average of the past 9 years, and with the single exception of North Windle the rates were below those of the previous year. The satisfactory diminution in the rates of this Ward, which had taken place during the previous two years, was not maintained. It is satisfactory to note, however, that very few cases came from the Denton's Green District, which up to the time of its re-drainage in 1897 furnished so large a proportion of the cases notified in the Ward. The only other Ward calling for comment is Parr. In this Ward once again a fairly high case-rate was recorded, though far below those of the two previous years. Again a large proportion of the 22 cases notified in this Ward occurred in Parr Flat, though Newton-road suffered to a much less extent than in the previous year. Much has been done during the year to place the sanitation of this district on a sounder basis. A house-to-house test of the drains was undertaken, when it was found that in a very large proportion of the houses more or less serious defects were present. These were remedied, and it is to be hoped that as a result of this the prevalence of the disease in the district will in future be greatly lessened. It is essential, however, in order that the Ward may be placed on a thoroughly sound sanitary basis that a main drainage scheme should be carried out. It is a matter for congratulation that some progress in this direction has been made, and it is to be hoped that during the present year this work may be expedited. It is certainly the greatest sanitary need of the Borough.

During the year the Inspector appointed to test drains did much valuable work, which cannot but react favourably on the health of the Borough, especially in reducing the number of Enteric Fever cases. A summary of the work done by him during the year will be found on page 74.

Of the 123 cases notified, 77, or 62·6 per cent. were removed to hospital, as against 63 per cent. in the previous year. This is a most satisfactory result.

The precautions adopted to prevent the spread of the disease were the same as in former years, namely (1) enquiry as to origin of case and the existence of insanitary conditions in the house; (2) the removal, by means of special pails, of all infective and infected material, twice or thrice weekly; (3) the supply of disinfectants twice a week, and the final disinfection of the premises; and (4) the removal of the patient, when practicable, to hospital.

The diagnosis of Enteric Fever by the serum test was extensively employed during 1900, almost every case notified, besides numerous other doubtful cases, being examined. It was often found of great value in confirming the clinical diagnosis. The extended observations made on this test during the past few months have more than justified one's earlier expectations. There seems to be little doubt that in it, one has at once a rapid and at the same time a certain means of diagnosing obscure cases of Enteric Fever.

During the early part of the year several typical cases were notified which failed to give the serum reaction, and it is extremely doubtful if these were true enteric cases. If these were excluded, the total for the year would be still more satisfactory.

DIARRHŒA.

The form of Diarrhœa to which the statistics under this heading chiefly refer is commonly known as Epidemic or Summer Diarrhœa. It is undoubtedly a preventible disease of microbial origin, the growth of the organism being fostered by filth and an organically polluted soil. The infection is probably conveyed by means of food, either the food itself being affected with the germs, or errors in diet preparing the way for the reception of the microbe.

As has been shown in previous reports, this disease is particularly fatal in young children, especially among those under one year who are bottle-fed.

The death-rate from Diarrhœa in St. Helens during 1900 was at the rate of **1·02** per 1000 per annum, as against 1·31 per 1000 in 1899. In England and Wales the death-rate was 0·69 per 1000.

In the following Table are placed, side by side, certain statistics relating to Diarrhœa and Typhoid Fever, and also certain meteorological statistics. It will be noted that the death-rates from Diarrhœa have fluctuated very considerably from year to year.

YEAR.	Total Deaths from Diarrhœa.	Total Deaths from Typhoid and Continued Fever.	Death Rate from Diarrhœa per 1,000.	Death Rate from Typhoid & Continued Fever per 1,000.	Death Rate from Diarrhœa in England and Wales.	Mean Temperature of the Air for the year.	Rainfall at Eccleston Hill. (Total ins.)
1871	89	28	1·96	·61	1·09	46·9	25·0
1872	65	24	1·39	·51	·99	49·3	44·3
1873	79	24	1·65	·50	·96	48·2	24·9
1874	110	25	2·25	·51	·92	48·6	27·8
1875	101	65	2·02	1·30	1·02	48·4	30·1
1876	86	40	1·69	·78	·91	48·4	36·3
1877	74	34	1·41	1·46	·61	48·3	41·7
1878	132	40	2·45	·74	1·00	48·5	35·5
1879	52	34	·94	·61	·45	45·5	24·3
1880	130	40	2·30	·70	1·17	48·2	29·7
1881	76	56	1·31	·97	·55	46·9	36·7
1882	85	33	2·12	·55	·65	48·5	39·7
1883	69	31	·89	·51	·59	48·0	34·8
1884	131	33	2·12	·53	·27	49·2	26·9
1885	56	7	·89	·11	·49	46·9	32·7
1886	122	28	3·01	·43	·89	47·3	33·0
1887	101	34	1·53	·51	·72	47 0	21·1
1888	65	22	·96	·32	·45	46·7	28·1
1889	85	81	1·27	1·18	·64	47·8	25·8
1890	74	24	1·05	·34	·60	47·8	27·0
1891	78	26	1·08	·36	·46	47·2	32·3
1892	84	25	1·14	·34	·50	46·6	34·8
1893	168	52	2·20	·68	·95	50·1	25·7
1894	35	26	·48	·33	·35	48·9	33·3
1895	101	59	1·27	·74	·88	47·3	28·0
1896	63	40	·77	·49	·56	48·7	31·8
1897	133	33	1·60	·39	·85	48·6	34·0
1898	140	31	1·65	·36	·95	49·7	28·9
1899	114	43	1·31	·49	·98	49·1	30·09
1900	**91**	**19**	**1·02**	**·21**	**·69**	**49·1**	**29·55**

As in former years by far the larger number of deaths occurred during the 3rd Quarter, as is seen below:—

DEATHS IN ST. HELENS FROM DIARRHŒA.

	1891	1892	1893	1894	1895	1896	1897	1898	1899	Mean of 9 years.	**1900**
January ...	2	2	1	0	0	1	2	0	1		**1**
February ...	1	3	0	0	0	0	1	0	2		**0**
March ...	4	2	2	2	0	0	0	1	0		**2**
1st Quarter ...	7	7	3	2	0	1	3	1	3	3·0	**3**
April ...	1	2	1	0	1	3	0	0	0		**2**
May ...	2	1	5	0	1	2	2	2	0		**0**
June ..	4	2	32	0	4	6	3	4	0		**2**
2nd Quarter ...	7	5	38	0	6	11	5	6	0	8·2	**4**
July ...	4	10	71	5	29	22	13	16	28		**13**
August ...	11	29	32	14	39	15	79	54	47		**42**
September ...	30	25	21	7	12	9	25	51	29		**23**
3rd Quarter ...	45	64	124	26	80	46	117	121	104	80·5	**78**
October ...	13	4	2	8	12	3	3	9	5		**4**
November ...	5	3	1	1	3	1	4	3	1		**1**
December ...	1	1	0	1	0	1	1	0	1		**1**
4th Quarter ...	19	8	3	10	15	5	8	12	7	9·3	**6**
Total each year	78	84	168	38	101	63	133	140	114	101·0	**91**

During the year special efforts have been made by the Health Committee to limit the death-rate among children. One of the diseases which these efforts were hoped most to effect was Diarrhœa, and the results have to a large extent justified the expectations entertained. During the year the Female Sanitary Inspectors have visited every birth occurring in the Borough and given advice as regards infant feeding, whilst the Infants' Milk Depôt has undoubtedly been attended with beneficial results, though the use made of this institution is somewhat disappointing.

It will be seen from the foregoing tables that during 1900 Diarrhœa has not been nearly so prevalent as in the three previous years, though the result leaves much to be desired. From the table immediately following, however, it will be apparent that there has been a greater proportional saving of life from this disease in St. Helens than in the country as a whole, the 33 great towns, the 67 large towns, or in rural districts. In these several groups the saving of life, compared with the average of the past nine years, is 0·2, 0·1, 0·3, and 0·1 respectively, while in St. Helens the saving has been equal to 0·6 per 1000. This, as far as it goes, is satisfactory.

Table showing the Death-rates per 1000 living from Diarrhœa in the 3rd or Summer Quarters for the past 10 years in England and Wales, the 33 Great Towns, the 67 Large Towns, England and Wales (excluding these Towns), and in St. Helens.

	1891	1892	1893	1894	1895	1896	1897	1898	1899	Avg. of 9 yrs.	1900	Dec. in 1900 below avg.
England and Wales..	1·0	1·2	2·8	0·8	2·4	1·6	2·8	2·8	3·2	2·1	1·9	—0·2
33 Great Towns ..	1·7	2·0	3·5	1·3	3·4	2·5	4·3	3·9	4·2	3·0	2·9	—0·1
67 Large Towns ..	1·0	1·5	3·8	0·9	3·0	1·9	3·4	3·3	4·1	2·5	2·2	—0·3
England and Wales.. (excluding these Towns)	0·5	0·7	2·1	0·4	1·5	0·9	1·6	2·1	2·4	1·3	1·2	—0·1
St. Helens ..	**2·9**	**3·3**	**6·6**	**1·2**	**4·1**	**2·3**	**5·6**	**5·7**	**4·7**	**4·1**	**3·5**	**—0·6**

The different Wards in which the cases occurred are shown in the following Table:—

WARDS.	1891	1892	1893	1894	1895	1896	1897	1898	1899	Avge 9 yrs.	**1900**
Eccleston, North.	13	11	32	9	18	10	23	36	16	19	**20**
Eccleston, South.	5	6	14	4	7	5	16	6	10	8	**9**
Central	13	10	20	2	18	10	10	18	16	13	**16**
Windle, North ...	5	6	8	2	9	5	16	13	9	8	**10**
Windle, South ...	6	19	29	5	11	8	17	16	14	14	**8**
Hardshaw ...	9	8	12	5	11	13	16	11	15	11	**10**
Sutton, East ...	5	2	8	4	5	2	11	7	8	6	**5**
Sutton, West ...	9	11	23	3	11	5	14	15	9	11	**3**
Parr	13	11	22	4	11	5	10	18	17	12	**10**
Total ...	78	84	168	38	101	63	133	140	114	102	**91**

From the above Table it will be seen that taking the average of the past nine years, this disease is most fatal in North Eccleston, South Windle, Central and Parr.

CHART No. 4.

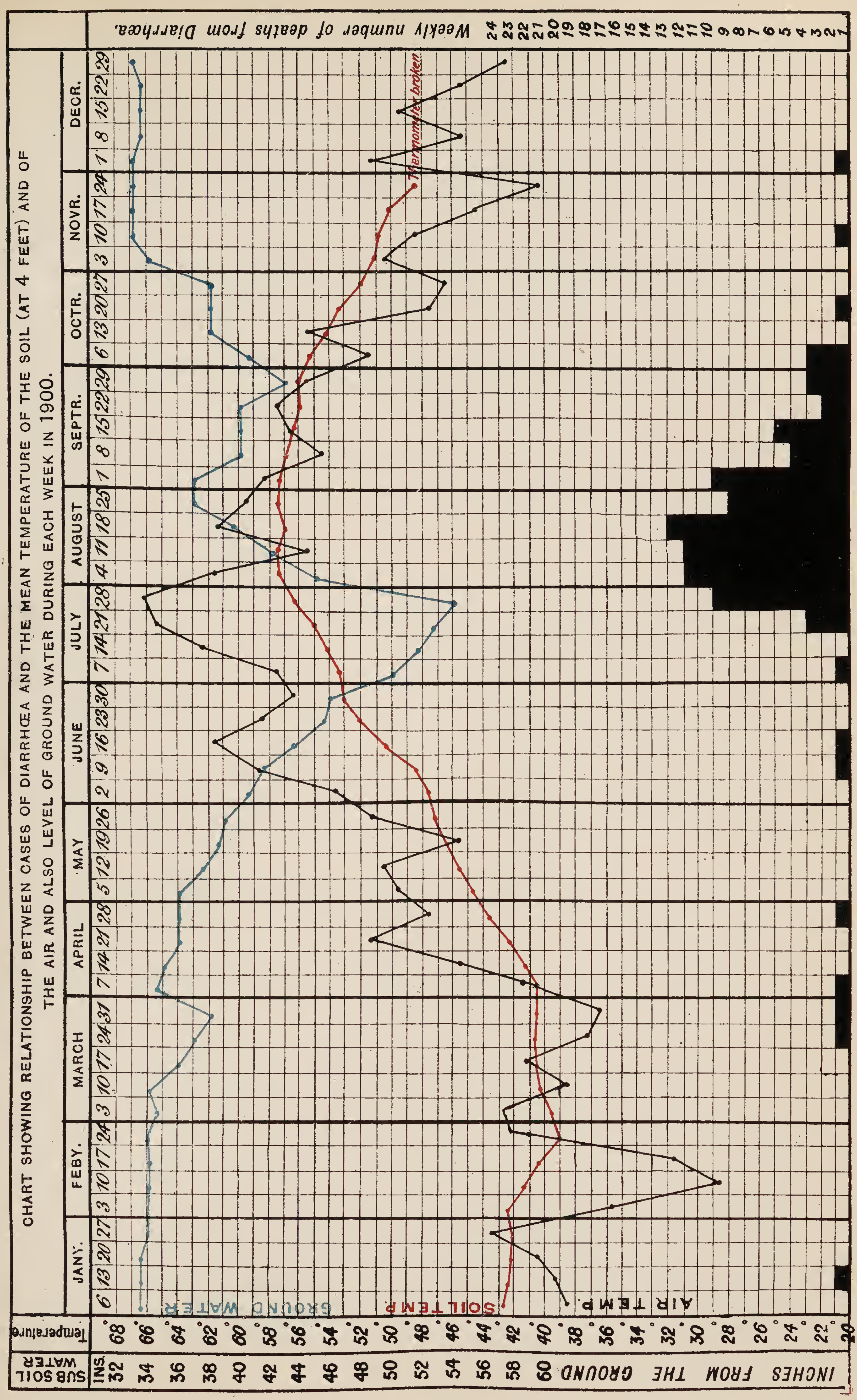


CHART SHOWING RELATIONSHIP BETWEEN CASES OF DIARRHŒA AND THE MEAN TEMPERATURE OF THE SOIL (AT 4 FEET) AND OF THE AIR AND ALSO LEVEL OF GROUND WATER DURING EACH WEEK IN 1900.

The ages at death of the 91 persons who died of Diarrhœa during 1900 are shown in the following Table, as well as the similar returns for the seven previous years:—

AGE.	1893	1894	1895	1896	1897	1898	1899	**1900**	Total.
0 to 3 months...	34	8	19	7	15	13	7	**17**	120
3 ,, 6 ,, ...	36	5	19	16	24	36	28	**23**	187
6 ,, 12 ,, ...	41	17	26	23	46	41	27	**27**	248
1 ,, 2 years ...	35	4	33	7	26	31	26	**11**	173
2 ,, 3 ,, ...	10	—	2	2	4	6	3	**3**	30
3 ,, 4 ,, ...	—	—	—	1	6	4	3	**0**	14
4 ,, 5 ,, ...	1	—	1	—	1	—	—	**1**	4
Over 5 ,, ...	11	4	1	7	11	9	20	**8**	71
Totals ..	168	38	101	63	133	140	114	**91**	848

Out of the 848 persons who died during these eight years, over 85 per cent. were under 2 years of age.

Of the 91 persons who died from Diarrhœa during 1900, 17 were under 3 months and 23 between 3 and 6 months old.

Particulars were obtained as to the method of feeding these children, and it was again found that the chief incidence of the disease fell on bottle-fed children.

Chart No. 4 is again appended. It shows the weekly number of deaths from Diarrhœa, with the corresponding air temperature and temperature of the soil at 4 feet, together with the level of the subsoil water.

The relationship between the temperature of the soil at 4 feet and the Diarrhœa Mortality is again most marked.

Diarrhœa began to be epidemic in the third week in July, the soil temperature reaching 54° (the critical point) during the second week. From this date it steadily increased, reaching the maximum in the third week in September, the soil temperature also touching its highest point in this week. From this point the epidemic rapidly declined with the fall of the temperature of the soil.

MINOR ZYMOTICS.

INFLUENZA.

Thirty-three deaths were due to this disease in 1900. All of these, with one exception, were of persons between 20 and 75 years of age. In the previous years the deaths were—

Year.	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
Deaths from Influenza...	32	19	3	7	8	7	17	13	19	**33**

It will be seen therefore that more deaths occurred from this disease than in any year of the past decade, not even excepting the epidemic year of 1891. This fact and the consequent increase of respiratory diseases accounts largely for the high mortality of the year.

ERYSIPELAS.

Erysipelas caused **2** deaths among the **138** cases of sickness from this disease which were notified during the year.

The cases of sickness were distributed over the Borough as follows:—

WARDS.	1893	1894	1895	1896	1897	1898	1899	**1900**	Totals.
Eccleston, North ...	11	8	6	9	14	17	6	**15**	86
Eccleston, South ...	9	6	5	9	7	4	5	**9**	54
Central	12	6	3	6	17	13	10	**7**	74
Windle, North ...	5	12	12	15	11	12	12	**11**	90
Windle, South ...	10	4	3	14	19	10	8	**11**	79
Hardshaw	8	11	15	33	30	45	25	**22**	189
Sutton, East	16	12	5	18	18	15	17	**18**	119
Sutton, West	8	7	6	12	8	7	7	**14**	69
Parr	19	9	14	21	38	50	31	**31**	213
Total cases of Sickness	98	75	69	137	162	173	121	**138**	973
Total No. of Deaths in each year... ...	2	2	1	4	3	3	3	**2**	20

The fatality or case-mortality-rate was therefore **1·45** during 1900, as against a mean-rate of 2·50 in the previous 8 years.

On account of the industrial occupations of St. Helens, a very large number of minor accidents take place, and it is therefore not surprising that a large number of cases of Erysipelas are notified during the year. By far the majority, however, of these cases are of a most trivial nature, as shown by the excessively low case-mortality and by the investigations to which every case is subjected. In many cases it is found the patient returns to work within two or three days of the notification being received.

There can be no doubt that in the past Erysipelas was a most serious disease, being especially the scourge of the surgical wards of large hospitals. Now, however, with our knowledge of the antiseptic treatment of wounds it is comparatively rarely that a really serious case occurs. Under these circumstances and from the fact that practically nothing in the nature of preventive measures is required in the majority of cases, it seems somewhat unnecessary that this disease should continue as one of diseases compulsorily notifiable under the Act. During the past ten years over £130 has been spent in notifications alone for this disease, with but comparatively little benefit accruing to the health of the town. At the present time when the cost of sanitary administration of an absolutely necessary and beneficial character is so increased, it seems regrettable to have to add to it expenditure of money and time which could undoubtedly be better employed.

PUERPERAL FEVER.

There were 15 cases notified during 1900, as compared with an average of 15 during the previous ten years.

The following Table shows the notified cases, deaths and case-mortality during the past eleven years: —

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	Avge. 10 yrs.	**1900**
Cases of sickness ..	11	16	14	19	26	17	11	19	7	9	15	**15**
Deaths	6	15	7	10	6	9	7	10	4	8	8	**9**
Case Mortality ..	54·5	93·7	50·0	52·6	23·1	53·0	63·6	52·6	57·1	88·8	53·3	**60·0**
*No. of Births to each Death ..	462	195	416	302	480	351	434	319	815	389	416	**416**

* This does not include Still Births, Abortions, &c., which are occasionally followed by Puerperal Fever.

For the first time in the above Table the case-mortality is shown, and it works out at a truly alarming figure. Taking the average of the previous ten years it is seen that over 53 per cent. of the cases notified terminated fatally, while during 1900 the fatallity was as high as 60 per cent. There can be little doubt that many of the milder cases escape notification, the disease being as stated below ill-defined, but even allowing for this, the state of affairs as set out above is sufficiently serious.

Puerperal Fever is a disease occurring after delivery, and is undoubtedly of septic origin, the virus being carried by means of actual contact. It is stated to bear a close relationship to Erysipelas. It is a somewhat ill-defined disease, and it is therefore difficult to state precisely what conditions should be notified under this head. Broadly speaking it includes all septic conditions connected with the puerperal state. It is perhaps the most preventible disease of the whole zymotic group, depending as it does on filthy surroundings or on carelessness on the part of the person performing the delivery. In St. Helens the cases almost exclusively occur in the practice of the various mid-wives of the town, a medical man not being called in till the disease is far advanced. Although it is comparatively rarely that it is possible to trace definitely the source of infection, there can be little doubt that it is often carried unwittingly by the mid-wife. For some years here it has been the practice of the Health Department on the occurrence of a case coming to their notice to at once suspend the mid-wife concerned from attending any fresh labours for a period of ten days from her last attendance on the fever case, and to thoroughly disinfect all her clothing. By this means the spread of the disease is undoubtedly checked. But the fact that one out of every 400 labours is attended with Puerperal Fever calls for something more to be done. It would appear that the means most likely to achieve success lies in the direction of the better training of mid-wives and their registration. It is to be hoped that some way may be found to give effect to this by Act of Parliament without the objectionable features which have been contained in the Bills hitherto introduced.

CLASS II.—**PARASITIC DISEASES.**

There were 3 deaths last year in this class, against 0 in 1899, and 2 in 1898.

CLASS IV.—**CONSTITUTIONAL DISEASES.**

(*a*)—There were six deaths from Rheumatic Fever in 1900; against 6 in 1899, 0 in 1898, 6 in 1897, 6 in 1896, 7 in 1895, 10 in 1894, 6 in 1893, and 8 in 1892.

(*b*)—Cancer and Malignant Diseases.

The following shows the deaths from this group during the years 1887 to 1900.

1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
8	22	25	27	37	23	36	36	42	35	40	44	35	**46**

Cancer and Malignant new growths in any Organ are included in the above figures. It is probable that the apparent increase since 1891 is due more to methods of classification, and the better recognition of obscure cases than to any real increase of the disease.

(*c*)—Tubercular Diseases.

Under this heading are included Tabes Mesenterica, Tubercular Meningitis, Hydrocephalus, Phthisis, and other Tubercular Diseases.

The following are the number of deaths during each of the past 7 years.

1894	1895	1896	1897	1898	1899	**1900**
164	179	179	173	162	168	**196**

The following shows the Distribution of cases :—

WARDS	1891	1892	1893	1894	1895	1896	1897	1898	1899	Avge. for 9 yrs.	**1900**
Eccleston, North.. ..	25	18	32	16	25	14	25	21	24	22·2	**24**
Eccleston, South.. ..	9	11	15	9	8	15	12	12	18	12·1	**19**
Central	25	17	11	12	16	19	20	14	8	15·9	**22**
Windle, North	21	18	6	17	19	26	15	18	17	17·4	**16**
Windle, South	15	19	13	16	15	11	19	17	16	15·6	**26**
Hardshaw	38	22	33	24	26	25	15	19	14	24·0	**21**
Sutton, East	12	18	13	15	22	11	15	12	13	14·5	**11**
Sutton, West	19*	23*	24*	39*	33*	36*	42*	35*	43*	32·6	**43***
Parr	13	14	13	16	15	22	10	14	15	14·6	**14**
Totals	177	160	160	164	179	179	173	162	168	169·1	**196**

* Including deaths from Tubercular Diseases occurring in Rainhill Asylum.

The mortality from Phthisis during 1900 was at the rate of **1·65** per 1000 of the population; this being ·07 above the mean of the preceding 17 years. It will also be noted that the rate for St. Helens is lower than that of England and Wales, and fractionally higher than that of the County of Lancaster.

DEATH RATES PER 1000 OF THE POPULATION FROM PHTHISIS.

Years	England and Wales	County of Lancaster	St. Helens
1883	1·87	2·14	1·60
1884	1·81	2·04	1·92
1885	1·75	1·95	1·58
1886	1·71	1·93	1·55
1887	1·59	1·77	1·36
1888	1·54	1·69	1·44
1889	1·54	1·64	1·41
1890	1·68	1·87	1·79
1891	1·59	1·81	1·93
1892	1·46	1·64	1·52
1893	1·46	1·65	1·45
1894	1·38	1·57	1·41
1895	1·29	1·59	1·60
1896	1·30	1·46	1·60
1897	1·53	1·51	1·44
1898	1·51	1·57	1·32
1899	1·34	1·51	1·94
1900	—	—	**1·65**
Mean ...	1·55	1·72	1·58

From the preceding tables it will be apparent that though the number of deaths from all tubercular diseases was above the average, the proportion of those due to phthisis was lower than in the previous year.

At the end of 1899 the Council decided to request the Medical Men of the Borough to notify cases of phthisis to the Health Department, paying them for so doing the ordinary notificaton fee. As a result of this 66 cases of phthisis were notified during 1900. Each case was visited and given advice as to the disposal of the sputum, the necessisty of ventilation, &c. It is too early as yet to state what results are likely to accrue, but it is certainly to be hoped that good will result.

As in the two previous years the houses where deaths from phthisis occurred were thoroughly disinfected after the death of the sufferer.

LOCAL DISEASES.

(*a*) Diseases of the Nervous System caused **234** deaths; against 215 in 1899, 207 in 1898, 179 in 1897, 191 in 1896, 178 in 1895, 172 in 1894, 191 in 1893, 187 in 1892, and 226 in 1891.

73 of the above 234 deaths were due to "Convulsions." Of these cases 57 were of children under one year of age. In this connection it should be noted that by far the larger number of deaths in this group occurred in the Rainhill Asylum, and therefore have only an indirect bearing on the Health Statistics of the Borough.

(*b*) Diseases of the Respiratory System caused the following number of deaths:—

1893	1894	1895	1896	1897	1898	1899	**1900**
390	302	344	356	375	332	379	439

The deaths from Bronchitis and Pneumonia are set out in the following Table.

	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
Bronchitis ...	210	221	177	219	232	300	243	215	154	164	171	186	169	213	**219**
Pneumonia...	83	103	87	133	172	218	141	147	118	118	154	167	145	130	**192**

The following figures show the distribution of cases of Bronchitis and Pneumonia over the Borough.

WARDS.	BRONCHITIS.							PNEUMONIA.						
	1894	1895	1896	1897	1898	1899	**1900**	1894	1895	1896	1897	1898	1899	**1900**
Eccleston, North..	31	22	21	25	20	19	**27**	5	17	12	9	12	10	**15**
Eccleston, South .	11	15	18	17	11	17	**24**	6	13	14	12	10	9	**11**
Central ..	15	18	22	27	24	40	**29**	13	8	12	19	5	7	**16**
Windle, North ..	10	13	16	16	16	8	**19**	11	12	9	16	15	9	**15**
Windle, South ..	16	11	16	23	16	19	**19**	8	10	17	10	11	14	**10**
Hardshaw ..	23	21	18	27	26	28	**31**	15	15	18	32	25	21	**20**
Sutton, East ..	9	13	22	17	12	26	**10**	22	24	18	19	10	24	**30**
Sutton, West ..	22	25	17	14	20	20	**22**	24	30	31	34	34	20	**51**
Parr	17	26	21	20	24	36	**38**	14	19	23	16	23	16	**24**

From the above Tables it will be seen that diseases of the Respiratory System were very prevalent during 1900; especially was this the case with Pneumonia.

DEATH RATES FROM ALL RESPIRATORY DISEASES PER 1000.

YEAR.	England and Wales.	St. Helens.
1884	3·34	4·51
1885	3·73	6·72
1886	3·64	4·82
1887	3·62	5·31
1888	3·50	4·54
1889	3·30	5·37
1890	4·12	5·78
1891	4·47	7·81
1892	3·96	5·18
1893	3·60	5·17
1894	3·02	3·89
1895	3·47	4·32
1896	2·98	4·38
1897	2·96	4·51
1898	2·89	3·91
1899	3·47	4·37
1900	—	**4·96**
Mean	3·49	5·03

(c) DISEASES OF THE DIGESTIVE SYSTEM caused **176** deaths; against 157 in 1899, 154 in 1898, 148 in 1897, 150 in 1896, 146 in 1895, 115 in 1894, 147 in 1893, and 132 in 1892.

(d) DISEASES OF THE URINARY SYSTEM caused **24** deaths; against 23 in 1899, 24 in 1898, 28 in 1897, 25 in 1896, 33 in 1895, and 17 in 1894.

(e) DISEASES OF THE REPRODUCTION SYSTEM caused **21** deaths last year; against 19 in 1899, 13 in 1898, 15 in 1897, 10 in 1896, 10 in 1895, and 12 in 1894.

DEATHS FROM VIOLENCE.

(a) Deaths from Accident or Negligence numbered **46** during 1900; against 48 in 1899, 50 in 1898, 45 in 1897, 53 in 1896, 52 in 1895, and 58 in 1894.

(b) Deaths from Homicide.—There was one death under this heading last year, against 0 in 1899, 1 in 1898, and 2 (1896) during the previous 4 years.

(c) Suicide caused 5 deaths during 1900; against 7 in 1899, 5 in 1898, 3 in 1897, 6 in 1896, 1 in 1895, and 7 in in 1894.

The death rate from violence is therefore ·58 as compared with ·58 per 1,000 in England and Wales.

DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.

138 death occurred under this heading during the year, being made up as follows: Debility and Atrophy 70, Marasmus 58, Mortification 3, Abscess 2, Hœmorrhage 2, and other causes not specified 3 deaths. The deaths for the previous 5 years under the same heading were—147 in 1899, 148 in 1898, 136 in 1897, 132 in 1896, and 169 in 1895.

BOROUGH SANATORIUM.

During the year the Hospital has once more been largely used, more so indeed than in any previous year—445 cases have been admitted. Of these 352 were cases of Scarlet Fever, while 90 were cases of Enteric Fever.

Once again sufficient accommodation was provided to admit all cases desiring admission and all cases in which the sorroundings rendered removal necessary, though on one or two occasions the accommodation was taxed to the uttermost.

The following shows the percentage of the notifiable infectious diseases treated in the Sanatorium:—

1890	...	8·4	per cent.	admitted to the	Sanatorium.
1891	...	18·4	,,	,,	,,
1892	...	17·1	,,	,,	,,
1893	...	18·65	,,	,,	,,
1894	...	22·50	,,	,,	,,
1895	...	40·21	,,	,,	,,
1896	...	18·3	,,	,,	,,
1897	...	20·1	,,	,,	,,
1898	...	32·02	,,	,,	,,
1899	...	50·5	,,	,,	,,
1900	...	**47·5**	,,	,,	,,

It will thus be seen that the percentage of admissions to notifications was very much better than it has ever been before, with the exception of 1899.

The following Table gives the yearly number of admissions, &c., since the Sanatorium was opened in 1881:—

YEAR.	No. remaining in Sanatorium on Dec. 31st.	Number Admitted.	No. who died in Sanatorium.	Total Days in Sanatorium of Patients.	Accommodation.
1882	—	9	3	—	Rooms in Peasley Vale, used as Wards and for Administrative purposes.
1883	—	14	1	—	
1884	—	36	6	—	
1885	—	9	0	—	
1886	—	17	3	—	
1887	—	38	11	—	
1888	—	25	4	—	
1889	—	116*	15	—	
1890	—	128†	20	—	Outbuildings converted into three Wards.
1891	—	89	10	—	
1892	—	134	15	—	
1893	—	150	25	—	
1894	19	182	22	6184	
1895	44	259	54	8962	2 New Pavilions used in addition to above.
1896	46	311†	15	16630	
1897	36	263	24	12955	
1898	51	263	28	12742	Large Pavilion and Observation Block opened.
1899	37	401 *	37	18049	
1900	—	**445 †**	**31**	**19203**	

* Enteric Fever Epidemic. † Scarlet Fever Epidemic.

Twenty-two of the above 445 patients were admitted from Haydock.

Cases admitted during 1900.	Males.	Females.	Totals.	Deaths.	Average Duration of Cases in Sanatorium 1900.
					Days
Small Pox	0	0	0	0	0·0
Scarlet Fever	174	178	352	13	44·10
Diphtheria	1	0	1	1	4·0
Enteric Fever	60	30	90	17	37·70
Erysipelas	0	0	0	0	0·0
Puerperal Fever	0	1	1	0	32·0
Other Diseases ... ... (including Observation Cases)	0	1	1	0	13·0
Totals	235	210	445	31	

The following shows the number of cases of each Notifiable Infectious Disease which was treated in the Sanatorium during 1900:—

DISEASE.	Total cases in Borough.	Number of such removed to Sanatorium.	Percentage of Removals to Notifications.
Small Pox	0	0	0%
Scarlet Fever	580	343	59·1%
Diphtheria, &c.	77	1	1·3%
Typhoid Fever	123	77	62·6%
Puerperal Fever	15	1	6·6%
Erysipelas	138	0	0%

The extent to which the hospital was used during the year is one of the most satisfactory points in the sanitary administration of the year. To isolate 59 per cent. of the Scarlet Fever cases, and 62 per cent. of Enteric Fever cases notified is certainly a matter for congratulation and the best guarantee against future epidemics.

During the year the hospital was redecorated throughout and electric light was installed in the wards and administrative blocks. This latter is a great improvement, and tends both towards greater efficiency and, it is to be hoped, to greater economy in the long run.

The Matron and Staff are to be greatly congratulated on the work done during the year.

REMOVAL OF PATIENTS AND INFECTED CLOTHING.

No alteration in the procedure in regard to the above was made during the year.

The number of houses which required disinfection was very large.

The following shows the work done during the past seven years.

	1894	1895	1896	1897	1898	1999	**1900**
No. of Days on which the Disinfecting Apparatus has been used ...	154	136	149	149	115	103	**153**
No. of Articles Disinfected—							
Beds	428	336	791	748	495	654	**936**
Pillows and Cushions	831	861	1241	1183	843	1185	**1670**
Blankets, Sheets, and Rugs ...	1261	1791	2144	1991	1819	1569	**2808**
Other Articles ...	330	366	619	1117	617	675	**702**
Clothing	1161	3643	6746	4429	3988	4440	**5754**
Hospital Clothing ...	1461	1394	507	358	395	837	**1248**
Books from Library and Schools ...	396	83	388	90	117	133	**261**
Total	6318	8474	12436	9916	8274	9493	**13379**
No. of Journeys of Van for Collection and Delivery ...	324	341	568	569	547	585	**624**
No. of Houses visited	1019	1024	1113	1861	1189	1450	**1624**

BACTERIOLOGICAL DEPARTMENT.

The work now done by this department necessitates that it should have a specific mention in the Annual Report. During the past year a large number of cases of Typhoid Fever were examined by means of Widal's serum reaction. On more than one occasion by its means an earlier diagnosis than would otherwise have been possible was able to be made. In certain other cases a negative result was obtained, although the clinical symptoms pointed to Enteric Fever.

This fact is not to be regarded as in any way detracting from the value of the test, but possibly points to the fact that at the present time more than one disease is included in the generic term of Enteric Fever, even as in former times, Typhus and Typhoid were not differentiated.

Several suspected cases of Diphtheria were examined with varying results, and several examinations of sputum for the presence of the Tubercle Bacillus were also made.

Lastly, the mixed water supplied by the Corporation was examined monthly, with satisfactory results, and the several wells were also tested separately at frequent intervals. It is satisfactory to note that each well showed on every occasion a satisfactory degree of bacterial purity.

In July the commodious new laboratory provided at the Town Hall was opened, and there can be no doubt that it has greatly added to the efficiency of the work done, besides reducing the labour formerly entailed by the distance of the old laboratory from the Town Hall.

THE INFANT MILK DEPOT.

In last year's report it will be remembered the initial steps taken to establish this institution were set out. The time has now come to deal fully with the matter and to describe in detail the mode of work, the results obtained, and the cost of the installation.

Briefly, to recapitulate, the Health Committee, as the result of a report presented to them on the excessive infantile mortality, especially from diarrhœal diseases, and pointing out what was being done at Fécamp in Normandy to limit this mortality, appointed a Sub-Committee to visit and report on the methods in force there. On their return the Sub-Committee presented a report, which was printed in the report of 1899, advising the Council to establish a similar dépôt in St. Helens. In May, 1899, the Council sanctioned the establishment of such a dépôt, and steps were at once taken to carry out the project.

A small six-roomed house was leased in Bickerstaffe Street—a conveniently central position—and was adapted to the requirements of the work. The ground floor is devoted entirely to the preparation of the milk, while the first floor is occupied by the directress and her assistants. The back room contains the sterilizers and the bottle washing machine, and it is here that the milk is prepared, the bottles washed and filled, and the sterilization takes place. Opening from this room is a second, lined with shelves, on which the baskets of bottles are placed until fetched by the customers. The front room is used as a Committee room, and it is here the babies are weighed. The necessary apparatus and appliances having been bought, it was possible by the beginning of August, 1899, to start the supply of Sterilized Humanized Milk for Infants. Briefly, the system is as follows :—The milk on its arrival is tested to ascertain, roughly, the percentage of cream, between 9 and 10 per cent. being regarded as the best amount. It is then diluted by one-third of its bulk to reduce the proteids to the proportion usually found in human milk. Cream and sugar are then added to the extent of 2ozs. per gallon of mixture respectively, and a small amount of salt is also put in. By these means a milk approximating in composition to human milk is obtained. The milk is next placed in stoppered bottles, and the stoppers closed ; the bottles, when filled, being placed in the sterilizer. The bottles are ordinary glass bottles, holding about five ounces each, fitted with a porcelain stopper and closed by a simple wire spring.

A rather ingenious apparatus for filling the bottles was designed by Dr. Caron, of Havre. It consists of a tin vessel capable of holding rather more than two pints, from which nine tubes lead ; under each tube a bottle being placed ; the requisite quantity of milk, having been measured in a glass beaker, is poured quickly into the filler, which distributes the milk equally to the nine bottles.

The sterilizer is a cylindrical vessel divided into five compartments, separated from each other and from the boiler by perforated zinc plates. Below the lowest compartment is a small boiler capable of holding about eight gallons of water, and acted upon by a fire at the base of the apparatus. Each compartment is closed by a door, hermetically sealed by rubber washers, and a similar door is placed on the top of the apparatus. On the water being heated, the steam rises through the perforated plates, and fills the whole chamber, passing out by a small pipe, governed by a stop-cock, which is conducted to a bucket of water, about four inches of the pipes being immersed. By these means a slight pressure is obtained, and the temperature of the steam raised about 2°C. On the top of the apparatus are also placed a thermometer, a pressure guage, and a small safety valve. As soon as the thermometer indicates 102°C, the time is noted, and that temperature is maintained for three-quarters of an hour. The time occupied in the whole operation is from 3 to 3½ hours.

By this simple means very perfect sterilization is obtained, and yet the milk in no sense tastes "boiled." Bottles of this milk have been kept for over a month, and on opening, the milk has been found perfectly sweet. A sample is kept from each operation for subsequent reference.

As soon as the sterilization is complete, the fire is raked out, and the doors opened. Having cooled somewhat the bottles are taken out and placed in baskets, nine in each, each basket representing the necessary amount of food for a child for one day, *i.e.*, six feeds for the day and three for the night. In no instance is the quality of the milk varied, but the quantity is adjusted according to the age of the child as follows :—

Age	Amount.
1 day	1¾ ozs.
2 days	3½ ,,
3 ,,	5 ,,
4 ,,	7 ,,
5 ,,	9 ,,
6 ,,	10 ,,
7 ,,	12 ,,
8 ,,	14 ,,
9 ,,	16 ,,
10 ,,	18 ,,
11 ,,	19 ,,
12-30 ,,	21 ,,
2-3 months	25 ,,
4 ,,	28 ,,
5 ,,	32 ,,
6-7-8 ,,	36 ,,
9-10 ,,	40 ,,
11-12 ,,	42 ,,

The baskets having been filled are placed on the shelves in the distributing room, where they remain till they are wanted.

When a new customer comes for the milk, the name and address of the child and its age and sex are obtained, and these with the date are entered in a book kept for that purpose. The mother is then given a basket of nine bottles, containing the requisite amount of milk according to the age of the child, and two teats are also given her. She is recommended before giving the child a feed, to place the bottle without removing the stopper in a basin of hot water, thus warming the milk to the requisite temperature. The stopper is then loosened and one of the teats fitted to the bottle. She is required to bring the teats at intervals to be examined as to their cleanliness. By this means, contact with the air is avoided, and the danger of pouring the milk into a dirty feeding bottle is obviated. On returning the basket of empty bottles next day, a fresh basket of bottles is given in exchange.

Lastly, on Wednesday afternoons, the mothers are requested to bring their babies to be inspected and weighed. Records of their weight are entered in a book, and also on a card which is given to the mother. It is a matter of regret that it has not been possible to insist on this, and that the records that have been obtained are somewhat fragmentary.

The Dépôt was opened on August 8th, 1899, and within a very short time over 80 children were on the books. Since then the numbers steadily increased till by the beginning of August, 1900, over 140 were being fed. To meet this increased demand, it was found necessary to make certain structural alterations in the house, and to purchase a second sterilizer. A bottle washing machine has also been obtained. It consists of a revolving wheel, in which the bottles are placed to soak. As the wheel revolves every part of the bottle is brought into contact with the water. The bottles are put in at one side of the wheel, which revolves by its own weight, and are taken out at the opposite side, the time occupied in travelling from one side to the other being about an hour. Thoroughly soaked, the bottles are taken out one by one, and brushed by a revolving brush, worked by a water turbine, and are then placed in a rinser. When the rinser is full the water is turned on, and they are thoroughly rinsed for about half a minute, and are then placed on shelves to drain.

Lastly, a carrier tricycle has been purchased, by means of which the outlying parts of the Borough can be supplied, and the milk taken to people at their own home at a slightly increased cost (1d. per day).

The staff employed at the Dépôt consists of one female directress and two assistants, who are given rooms in the upper storey of the house.

Such is a brief outline of the Scheme as practised in St. Helens. What are its results?

It is difficult as yet to give any accurate statistics. Up to the end of 1899, 284 children had been supplied with the milk for longer or shorter intervals. Of these, 52 only used the milk for a week or less. Excluding these, which can hardly be said to have given the milk a fair trial, the death-rate among the remainder was only 103 per 1000, compared with 157 per 1000 births taking the Borough as a whole. This in itself is a considerable saving of life. Of the 24 deaths which occurred in the above 232 children, 4 were from Diarrhœa (all in children who had had the milk for less than three weeks, and who were already suffering from this disease when brought to the Dépôt), Marasmus 3, Bronchitis 4, Pneumonia 2, Measles, 2, and Convulsions, Gastro Enteritis, Meningitis, General Tuberculosis, Tabes Mesenterica, Croup, Asthenia, and Whooping Cough, one each. With the exception of seven of these deaths, all occurred in children who had had the milk for less than a month.

The results obtained in 1900 were quite as satisfactory as in 1899. During the year 332 children were fed on the milk from periods varying from one to twelve months. The death-rate among the children so fed was only 102 per 1000, as against an infantile death-rate in the Borough as a whole of 188 per 1000 births. Thus it will be seen that in a year particularly deadly to infantile life the death-rate among children fed on the milk was actually lower than in the previous year, when the infantile mortality rate was the lowest on record. In other words the saving of life of children fed on the milk during 1900 represents 86 per 1000.

Of the 34 deaths which took place, over 50% had only taken the milk for less than three months. They included 5 deaths from Diarrhœa, 6 from Marasmus, 6 from Bronchitis, 4 from Gastric diseases, 7 from Debility and Asthenia, 3 from Convulsions, 2 from Whooping Cough, and one from Diphtheria.

In individual cases moreover, there can be no doubt as to the good that has resulted from taking the milk. During the very hot weather, August and September, 1899, when Diarrhœa was so prevalent throughout the whole country, many cases were brought to the Dépôt in the last stages of this disease. In more than one instance the milk seemed to work like magic, and the recoveries were most remarkable. The same was equally true in the summer of 1900. Many of these cases only had the milk for a comparatively short period, and when enquiries were made as to the reason of their discontinuance, the reply made was "Oh, the child is all right again now, and is able to take its ordinary food," the milk evidently being regarded as a medicine rather than a food. Increased experience however, will no doubt eradicate this wrong impression.

Appended are a few statistics of the results which have been obtained in France, where the system has had a longer trial.

In Fécamp, which is a small seaside town of some 14,000 inhabitants, there has been for many years an abnormally high infantile mortality rate (247 per 1,000—1894-98). Owing to the smallness of the town, and the comparatively small number of births, the effect of this system is more easily shown. Certainly the statistics are remarkable.

YEAR.	No. of Births.	No. of Infants.	Deaths from Enteritis.		Deaths from other causes.		INFANTILE MORTALITY.	
	In Town.	In Goutte de Lait.	In Town.	In Goutte de Lait.	In Town.	In Goutte de Lait.	In Town.	In Goutte de Lait.
1894-5	400	33	25	—	71	4	240	121
1895-6	429	73	78	5	107	16	431	287
1896-7	420	68	37	2	20	5	146	106
1897-8	455	135	56	3	30	9	186	90
1898-9	434	156	42	2	57	9	228	70
1899-1900 (7 months)	—	180	—	3	—	7	—	52

The contrast in death-rate among children fed at the Goutte de Lait, and children in the town is sufficiently marked to need no further comment.

With reference to the above figures, Dr. Dufour remarks that owing to the intense and prolonged heat, the summers of 1896, 1898, and 1899 were very deadly to infants. The year 1899-1900 was also characterised by a severe epidemic of Measles.

At Havre where a Dépôt has been opened for one year, the following results have been obtained. Dr. Caron divides the children into two categories (1) those who came to the Goutte de Lait healthy, and (2) those who were ill (mostly suffering from diarrhœa, vomiting and thrush) when they started the milk. The first series included 230 children; of these 9, or 5·2 per cent. died of Enteritis, against 13·37 per cent. in the town as a whole, while from all other causes 20, or 7·39 per cent. died, as against 7·83 per cent. in the town, or a total mortality of 126 per 1000.

The second series comprised 75 children, of which 15, or 20 per cent. died from Enteritis, and 20, or 26 per cent. from all other causes. Thus even among these over 53 per cent. recovered.

Lastly there is the financial aspect. In Fécamp and Havre, the societies being philanthropic, the charge for the milk is graduated according to the ability of the parents to pay, being gratuitous to the very poor, and increasing gradually to as much as one franc per day to the rich. It was felt, when the scheme was started in St. Helens that it was impossible to follow this plan, and that one uniform rate must be charged. The price was fixed at 2d. per day's supply, as it was found that this sum rather more than covered the cost of materials and fuel, the Corporation agreeing to supply the plant and to pay the rent of the house and the wages for attendance.

The following is a statement of the cost up to date:—

	1899-1900. (8 months)	1900-1901.
Cost of Installation ...	£235 2 5	£123 7 1

This sum of £358 9s. 6d. though paid out of revenue, may be really regarded as a capital charge as it will not occur in future years.

Current Expenditure—	1899-1900. (8 months).			1900-1901.		
	£	s.	d.	£	s.	d.
Wages for Attendance ...	63	11	0	115	11	5
Milk	160	11	9	272	9	2
Rent of House	18	0	0	18	0	0
Sugar	12	1	2	8	6	6
Fuel	4	8	2	9	4	0
Sundries	5	19	0	21	13	5
Renewal of Bottles ...		—		25	18	8
	£264	11	1	£471	3	2
Income from Sale of Milk	£187	0	0	£328	9	5
Amount falling on rates	£77	11	1	£142	13	7

Thus it will be seen that the cost to the town has been very small, and has been more than repaid by the benefits which have accrued.

Since the installation of the scheme very numerous enquiries have been made from other towns as to its working and the results obtained. Liverpool, Dukinfield, and Ashton, have already started Dépôts, while in Belfast one is in course of construction. It is a matter of congratulation that, in this as in other things, St. Helens should have been a pioneer.

SANITARY STAFF.

This consists of—

The Medical Officer of Health.
Canal Boats Inspector. This Office is held by the Surveyor.
Chief Inspector of Nuisances.
Four Male Assistant Nuisance Inspectors.
Two Female „ „ „
A Meat Inspector.
An Inspector under the Sale of Food and Drugs Act.
One Clerk.
Two Disinfecting Men.
One Laboratory Attendant.

GENERAL SANITARY WORK DURING 1900.

At the fortnightly meetings of the Health Committee a report was presented dealing with the Health Statistics for the previous fortnight, and in these reports special attention was drawn to points requiring consideration.

The following special report was also submitted during the year:—

Report on the Royal Institute of Public Health Congress at Aberdeen.

WATER SOFTENING WORKS.

Samples have been taken from these works daily, and tested as to their hardness by the Medical Officer of Health. Each sample is obtained by allowing the softened water to drop for twenty-four hours into a glass vessel. At the end of this time the contents are well mixed, and the sample taken. In this way a true sample is obtained.

	No. of Samples Tested.	Mean Hardness.
January	31	10·0
February	28	11·4
March	31	11·5
April	30	11·3
May	31	10·9
June	30	11·5
July	31	11·5
August	31	10·2
September	30	11·7
October	31	11·3
November	30	10·8
December	31	10·9
	Total 365	Mean for the year = 11·1

The average hardness of the unsoftened water was 21·0.

MILK SUPPLIES.

It is hardly necessary to again insist on the importance of clean milk supplies from a public health point of view ; and it is satisfactory to note that the milk trade of St. Helens has been carried on with more care than in former years. No case of Infectious Disease was traceable to a milk supply.

The total number of Cowkeepers on the Register in St. Helens during 1900 was 47, while the total amount of accommodation in the shippons belonging to them was for 324 cows. The number of persons registered as purveyors of milk, exclusive of cowkeepers, was 104, and while many of the premises belonging to these are hardly as satisfactory as might be desired, much has been done to place them in a clean and sanitary state. 13 new premises were registered during the year, namely, 1 as Cowkeeper and 12 as Purveyors of Milk.

Before leaving this subject it would be well to insist on the necessity of abundant air space for the cows while in the shippon. The minimum space permitted in St. Helens is 800 cubic feet. Without sufficient air space the risk of Tubercular Disease in the cows is very great, while the danger arising from the ingestion of milk from a Tubercular cow is well known. It is to be feared that in the case of much of the milk imported into the town from outlying districts this minimum air space is often not provided.

PROPERTY UNFIT FOR HUMAN HABITATION.

The following is a list of houses which have been closed by order of the Sanitary Authority during 1900 (under Bye-law No. 93 with regard to Buildings) :—

March 20th—Nos. 1 and 2 No. 3 Court, Crab Street } Repaired thoroughly and re-opened.

CANAL BOATS ACT.

The following is a copy of the Annual Report of the Inspector under this Act to the Local Government Board :—

In compliance with Section 3 of the Canal Boats Act, 1884, I have to present to you my Annual Report as to the execution of the Canal Boats Acts, 1887 and 1884, for the year ending 31st December, 1900.

(1) The Corporation of St. Helens have appointed me to be Inspector under the Canal Boats Acts, in addition to my duties as Borough Engineer. No special remuneration is made for my duties under the Canal Boats Acts.

(2) The number of Boats inspected in 1900 was 11, against 11 in 1899.

(3) Of the 11 boats inspected during the year, one was found to contravene section 3 of the Act of 1887, there being no certificate of registration on board. A caution form was sent to the owners, and in due time a copy of the certificate was sent from the Registration Authority. No other infringements of the Acts occurred during the year.

(4) It was not necessary to take any legal proceedings for infringements, nor was it necessary to take any other steps to secure compliance with the Acts or Regulations.

(5) No case of Infectious Disease was discovered on any Canal Boat during the year, nor was any case reported to the Medical Officer of Health.

(6) No Canal Boats were detained for cleansing or disinfection.

(7) No boats are at present on the Register.

(8) No boat was registered during 1900.

The Canal was closed for traffic from August 4th to October 1st, 1900, for the purpose of re-building the culvert over the brook.

I herewith append a table showing the foregoing facts.

I am, gentlemen,
Your obedient servant,
GEO. J. C. BROOM,
Canal Boats Inspector for the County Borough
of St. Helens, Registration Authority.

BLACK SMOKE NUISANCE.

153 chimneys were "timed" during 1900 for periods lasting from a few minutes to over an hour, as against 292 chimneys in the previous year.

It was considered by the Health Committee that if Black Smoke issued from any chimney for a longer period than five minutes at one time, that a nuisance that was preventable was thereby caused.

Of the 153 observations taken, in 39 Black Smoke was sent out for over five minutes—the longest time being 18 minutes.

In each of the 39 cases the works were communicated with and a reply obtained as to the cause, together with an assurance that means were being taken to prevent such from happening again.

SWINE FEVER.

The prevalence of this disease has no very direct bearing on the public health, but from the fact that so many pigstyes exist, even in populous areas in St. Helens, it is not uninteresting to note the number of outbreaks from year to year. Again the destruction of the affected animal in the Refuse Destructor at Parr, and the cleansing of the premises, have been carried out by the Health Committee.

The number of outbreaks reported in each of the eight years is as follows:—

1893	1894	1895	1896	1897	1898	1899	**1900**
48	10	27	33	26	20	45	19

OFFENSIVE TRADES.

The following offensive trades are on the register:—

Tripe Boilers	6
Gut Scrapers	1
Manure Manufacturers	1
Soap Boilers	2
Fat Boilers	1
Bone Boilers	1
Total	12

COMMON LODGING HOUSES.

There are 13 Registered Common Lodging Houses in St. Helens, against 14 in the previous year. These contain 79 Registered Sleeping Rooms, having beds for 275 adults and 4 children.

These have been inspected regularly during the day by the Nuisance Inspectors, and at night by the Police, and were Lime-washed in April and October.

SLAUGHTER HOUSES.

There were on December 31st 12 Licensed Private Slaughter Houses, together with the Public Abbatoir and 1 Knacker's Premises.

The Licenses of 6 of the above Slaughter Houses have been renewed for one year and 2 have been transferred.

The following figures show the number of Cattle Beasts killed in the Corporation Slaughter House and in the rest of the Borough :—

	Corporation Slaughter House.	In other Slaughter Houses.
1890	276	2429
1891	995	2714
1892	959	2959
1893	1321*	2859
1894	1203*	2847
1895	1226	2026
1896	1763	1634
1897	1976	879
1898	2465	623
1899	2682	734
1900	**3131**	**516**

* Owing to want of accommodation, butchers had to kill elsewhere, who would have killed here.

The following gives the number of Animals Slaughtered in St. Helens during 1900 and eight preceding years :—

ANIMALS KILLED.	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
No. of Beasts killed within the Borough in public and private slaughter houses for market purposes ..	3918	4180	4050	3252	3397	2852	3088	3416	**3647**
No. of Sheep	4385	5365	4485	3648	3420	4487	3520	3048	**3537**
No. of Calves..	369	1281	588	471	459	427	443	401	**413**
No. of Pigs	872	772	3410	3348	7338	6384	5957	6594	**7748**
Total	9544	11598	12533	11832	15314	14150	13008	13459	**15345**
Beasts killed in the Corporation slaughter house, which are included in the above number	959	1321	1203	1226	*6520	*6520	*7430	*7550	***9597**

* Including Sheep, Pigs, etc.

Meat or other Articles seized or given up on account of being Unfit for Human Food, during the year ending December 31st, 1900.	
Butchers' Meat	3 tons 7 cwts. 77lbs.
Fish (various)	1 ton.
Beasts Lungs	14 sets.

No prosecutions were instituted for offences during the year.

REPORT OF PUBLIC ANALYST FOR YEAR 1900.

The following Table shows the work done by the Public Analyst during the year 1900.

Name of Sample Analysed.	Number of Samples Analysed.	Number of such Samples which were found to be genuine.	Number of such Samples which were found to be adulterated.	No. of Cases in which a Summons was taken out.
New Milk	36	36	—	—
Vinegar	3	3	—	—
Whiskey	7	7	—	—
Butter	43	42	1	1 case fined
Cheese	4	4	—	—
Lard	1	1	—	—
Tea	4	4	—	—
Coffee	4	4	—	—
Pepper	4	4	—	—
Beer...	26	26	—	—
Stout	4	4	—	—
Golden Syrup ...	3	3	—	—
Chocolate Cream ...	2	2	—	—
Margarine	1	1	—	—
Spanish	1	1	—	—
Ice Bar	1	1	—	—
Toaste Waste ...	1	1	—	—
Raspberry Noyeau...	1	1	—	—
Totals	146	145	1	1

APPENDED IS A TABLE SHOWING THE NUMBER OF SAMPLES SUBMITTED FOR ANALYSIS SINCE 1891, THE NUMBER OF SUCH SAMPLES WHICH WERE ADULTERATED, AND THE PERCENTAGES OF ADULTERATED SAMPLES DURING THE YEAR.

Articles Purchased.	1891		1892		1893		1894		1895		1896		1897		1898		1899		1900	
	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated	Total Samples	No. Adulterated
Milk	30	3	23	2	23	2	25	2	82	8	82	4	69	11	72	..	59	..	36	..
Separated Milk	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Whiskey	11	3	9	1	..	1	12	3	6	1	6	..	6	..	3	..	2	..	7	..
Butter	15	3	23	..	6	..	12	2	30	..	30	3	36	..	47	1	49	4	43	1
Margarine	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Bread	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..
Coffee	1	..	1	..	.	..	..	..	..	..	2	..	2	..	2	1	6	..	4	..
Cheese	..	..	..	..	..	..	..	..	1	..	2	..	5	..	3	..	5	..	4	..
Vinegar	..	..	..	..	..	..	..	..	..	..	..	..	6	..	2	..	4	..	3	..
Cocoa	7	.	..	..	..	..	..	...	..	..	..	..	..	..	..	..	..	..	..	..
Lard	..	..	1	..	..	..	..	..	3	..	6	..	2	.	1	..	2	..	1	..
Pepper	..	..	1	..	..	..	..	..	..	..	2	..	4	..	2	..	5	..	4	..
Beer	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	..
Mustard	..	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
Paregoric	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..
Tincture of Opium	..	..	..	..	..	..	.	..	1	..	..	..	..	..	..	..	..	..	..	..
Spirits of Nitre	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Tea	..	..	.	..	..	..	..	..	..	..	..	..	2	..	4	..	6	..	4	..
Peas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	.
Stout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..
Golden Syrup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..
Chocolate Cream	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Spanish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Ice Bar	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	1	..
Toast Waste	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Raspberry Noyeau	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	1	..
Totals	64	9	61	3	29	3	49	7	128	9	133	7	133	11	139	2	140	4	146	1
Percentage of Adulterated Samples—St. Helens	14·0		4·9		10·3		14·3		7·03		5·26		8·27		1·43		2·85		·68	
Percentage of Adulterated Samples—All England	12·2		12·4		12·9		10·3		9·3		9·2		9·4		8·7		—		—	
Average Amount of Fine in each Case, exclusive of Costs— St. Helens	s. d. 12 9⅓		s. d. 10 0		s. d. 7 6		s. d. 4 7 5/7		s. d. 12 2⅔		£ s. d. 1 5 8 4/7		£ s. d. 2 12 5		s. d. 5 0		£ s. d. 11 10 0		£5	
England and Wales..	£1 11 3		£1 16 2		£1 17 11		£1 15 7		£1 15 9		£1 10 9		£1 11 0		£1 16 8		—		—	

BAKEHOUSES.

206 Bakehouses were inspected during the year, but only 118 of these were found to be in use. Three notices were served to limewash and cleanse the premises, and 1 to remove drains from the inside of Bakehouse. Each of these notices was complied with, and no further proceedings were taken.

One new Bakehouse was erected during the year, and the Health Committee insisted that the Bakehouse should not be used as a scullery or wash-house as well as a bakehouse.

WORKSHOPS.

The number of Registered Workshops on December 31st, 1900, was 320. These were visited several times during the year. Four notices were served to provide efficient ventilation, and 3 notices served to provide extra closet accommodation. These notices were complied with, and no further proceedings were taken.

NUISANCE INSPECTORS' WORK DURING 1900.

Systematic house-to-house inspections have been carried on during the year by the Assistant Nuisance Inspectors, and the following Table gives a list of the number of cases in which nuisances were found, and for which notices had to be served :—

SANITARY NOTICES.

Number of Sanitary Notices Served.	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
To Clean Choked Drains and W.C's. ..	357	447	353	303	230	291	193	285	**331**
,, Repair or Relay Defective Drains ..	48	57	86	63	66	87	167	209	**250**
,, Drain Dwelling-houses	..	17	2	25	7	5	15	11	**3**
,, Disconnect and Ventilate Drains ..	..	..	..	..	..	..	84	210	**270**
,, Disconnect Downspouts	2	..	..	..	8	19	60	144	**109**
,, Repair or Lengthen W.P. to Slopstones .	148	144	133	55	52	49	53	67	**94**
,, Provide W.P. to Slopstones	..	..	..	..	..	12	29	46	**40**
,, ,, Slopstones	..	28	61	13	4	19	34	34	**53**
,, Repair W.C's, Baths, Basins and Lavatories	..	43	11	18	2	26	13	23	**48**
,, Repair Roofs of Dwelling-houses ..	115	142	272	258	108	129	131	214	**182**
,, Cleanse Backyards, Privies and Passages	11	46	72	30	18	21	37	24	**46**
,, Cleanse & Whitewash Filthy Dwellings .	..	..	18	42	31	27	31	35	**23**
,, Provide Doors to Privies, Pail Closets, and Ashpits	179	59	306	258	170	239	252	283	**385**
,, Repair or Re-hang Doors to Pail Closets, Ashpits, and Privies	49	92	2	..	..	141	120	157	**299**
,, Repair Privies and Ashpits	..	..	96	21	8	1	51	36	**70**
,, ,, Eaves and Downspouts	39	93	126	182	75	134	101	98	**124**
,, Provide ,, ,, ...	37	14	83	..	42	22	50	37	**41**
,, Repair Pavement, Backyards, etc. ..	291	252	193	94	69	128	267	240	**371**
,, ,, ,, and Floors in Dwelling-houses	..	..	..	..	..	..	..	47	**69**
,, Remove Fowls, Pigeons, etc., from Dwellings	..	..	..	11	12	6	16	7	**6**

Number of Sanitary Notices Served.	1892	1893	1894	1895	1896	1897	1898	1899	**1900**
To Remove Pigs	14	39	37	27	28	17	6	21	**31**
,, ,, Rubbish	17	16	18	25	18	15	29	35	**48**
,, ,, Manure	16	5	29	15	17	24	6	18	**16**
,, Reconstruct Middensteads	..	..	..	..	..	..	..	..	**11**
,, Clean Foul Ditches and Cesspools .	2	5	11	29	14	22	25	106	**45**
,, Provide or Repair Ashboxes	..	..	194	179	340	32	54	715	**170**
,, Overcrowding	37	26	56	153	33	31	24	24	**23**
,, Replaster Walls or Ceilings of Dwellings	..	..	..	..	..	..	86	95	**108**
,, Prevent Dampness in Dwellings ..	..	..	..	..	..	..	..	..	**25**
,, Remedy Defects in Bakehouses ..	..	..	..	..	..	10	8	4	**2**
,, ,, ,, Workshops	..	..	..	..	..	..	..	..	**7**
,, ,, ,, Cowsheds and Dairies	..	..	..	..	8	12	3	7	..
,, Provide Water Supply	..	..	..	..	..	..	..	18	**9**
,, Miscellaneous	487	436	237	231	215	164	122	207	**175**
Foul Ashpits to be Reconstructed to W.C's..	..	..	..	..	..	218	92	227	**135**
TOTALS	1849	1961	2333	2026	1579	1895	2159	3714	**3619**

REPORT OF THE WORK DONE BY THE INSPECTOR APPOINTED TO TEST DRAINS.

The following is a summary of the work done during the year:—

New Drains.—342 new drains have been tested with the water test.

Of these 198 proved satisfactory on the 1st test.
96 ,, ,, ,, 2nd ,,
35 ,, ,, ,, 3rd ,,
10 ,, ,, ,, 4th ,,
2 ,, ,, ,, 5th ,,
1 ,, ,, ,, 7th ,,

The improvement in the laying of the drains will be noted, 58% being satisfactory on the first test, and only 14% requiring more than two tests.

Old Drains.—The smoke test has been applied to all the houses in the following streets:—Lowe-street, York-street, South John-street, Cowley Hill-lane, Fenton-street, Barton-street, Randon-street, Napier-street, Raglan-street, Moxon-street, Newton-road, Southport-street, Mersey-street, Brunswick-street, Traverse-street, Higher Parr-street, Derbyshire Hill-road, Hall-street, Shaw-street, Railway-street, and Havelock-street.

The results were as follows:—

Total number of houses tested	1264
Drains were found defective in	392
Gullies do. in	94
Total defects	486 or 38·45%

In 1899, 1257 houses were tested, showing 30.3% of defects.

These figures speak for themselves, and more than justify the appointment of the inspector. This work cannot but re-act most favourably on the health of the Borough.

REMOVAL OF EXCRETA.

Prior to 1884 all houses, with few exceptions, were on the Privy Midden System. Since 1884 the number of houses put on the Tub and Pail System are detailed in the accompanying table, which has been further brought up to date by the inclusion of the number of Water Closets added during the year:—

	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	**1900**	Total	
New Houses Tub and Pail..	180	352	307	338	349	275	221	268	347	277	175	104	4	..	..	..	3218	7321
Converted Privies to Tub and Pail	526	380	328	415	602	435	117	192	196	487	358	14	21	-16	..	..	4103	
New Houses, No. 2 System..	..	..	..	..	..	..	..	..	..	..	..	..	49	32	..	..	81	81
New Houses, Water Closets.	Total number of Water Closets up to 1896 = 1450												142	355	236	**264**	2447	2792
Converted Privies to Water Closets	..	..	..	..	..	..	..	..	..	..	..	..	66	17	86	**101**	260	
Tub and Pail to Water Closets	..	..	..	..	..	..	..	..	..	..	..	..	21	16	36	**12**	85	

The above Table thus shews the number of Water Closets in the whole Borough to be **2792**; Tubs and Pails, **7321**; and No. 2 System, **81**.

To these must be added 2665 Middens which still exist.

WEEKLY RECORD OF METEOROLOGICAL CONDITIONS TAKEN AT VICTORIA PARK.

WEEK ENDING.	Barometer.	Maximum Temp.	Minimum Temp.	Mean Temp	Mean Soil Temp. (4 feet.)	Rainfall (total in.)	WIND. Number of days in each direction.								
							N	NE	E	SE	S	SW	W	NW	Calm
January 6..	29·519	47·2	31·5	38·6	42·7	·46	..	1	2	2	..	1	1	..	..
,, 13..	30·001	48·1	31·9	39·1	42·3	2·15	..	..	1	2	..	..	2	2	..
,, 20..	29·578	50·2	33·9	40·4	42·1	·91	..	..	1	1	1	3	..	1	..
,, 27..	29·771	51·1	30·4	43·6	42·0	·79	..	..	..	2	..	3	2	..	..
February 3..	29·628	40·8	25·9	34·9	42·2	·57	1	3	..	1	..	..	..	2	..
,, 10..	29·643	36·3	15·2	28·5	41·2	·26	1	..	1	2	1	..	..	2	..
,, 17..	29·321	45 5	15·4	31·6	40·2	·94	..	..	1	2	..	1	2	1	..
,, 24..	28·993	57·0	29·0	42·0	39·0	1·60	..	..	2	1	1	1	..	2	..
March 3..	29·847	55·3	33·3	42·4	39·7	·52	..	4	..	2	..	..	..	1	..
,, 10..	30·128	44·5	33·0	38·5	40·2	·00	1	1	2	..	..	..	..	3	..
,, 17..	30·018	56·5	27·0	42·2	40·9	·17	1	..	1	..	..	..	1	4	..
,, 24..	29·539	48·6	21·5	37·1	40·9	·36	1	2	1	3	..	..	..	..	..
,, 31..	29 781	49·0	27·3	36·2	40 8	·24	3	..	.	2	..	..	..	2	..
April 7..	29 641	51·2	30·0	41·8	40·7	·66	..	..	1	2	..	..	4	..	..
,, 14..	29·582	57·4	31·2	45·5	41·1	·63	..	..	1	..	..	1	4	1	..
,, 21..	30·086	70 2	40·0	51·4	42·2	·21	..	..	..	3	..	2	1	1	..
,, 28..	29 997	69·5	32·1	47·8	43 9	·07	..	..	2	..	..	1	3	1	..
May 5..	29·610	62 0	38·0	49·7	44 9	·48	..	..	..	1	2	2	..	2	..
,, 12..	29·722	63·7	39·0	50·4	45·8	·99	1	1	1	3	..	..	1	..	..
,, 19..	30·030	61·0	37·0	45·7	46·3	·15	..	4	..	..	..	..	..	3	..
,, 26..	29·717	61·0	38·0	51·1	47·1	·21	..	..	..	..	2	2	1	2	..
June 2..	30·165	66·0	38·9	53·6	47 9	·02	1	..	..	2	..	..	2	2	..
,, 9..	29·830	73·0	43·2	58·7	48 7	·20	..	2	2	..	1	..	..	2	..
,, 16..	29·820	78·5	50·0	61·6	50·8	·62	..	..	..	3	1	2	..	1	..
,, 23..	29·769	68·7	48·2	58·4	52·2	1·17	..	..	..	..	2	..	5	..	..
,, 30..	29·740	65·0	48·2	56·3	53·0	·50	..	..	..	..	1	2	..	4	..
July 7..	29·799	67·5	48·2	57·4	53·4	·50	..	..	..	..	..	..	3	4	..
,, 14..	29·913	84·5	47·0	62·4	54·1	·14	..	..	..	1	..	3	1	2	..
,, 21..	30·031	79·0	50·0	65·3	55·1	·37	1	..	1	2	..	2	..	1	..
,, 28..	29·940	77·8	48·2	66·0	56·4	·23	..	..	..	2	..	..	1	4	..
August 4..	29·612	73·8	50·0	61·6	57·5	2·4[illegible]	..	1	1	..	..	3	1	1	..
,, 11..	29·692	64·2	47·4	55·4	57·5	2·02	1	1	..	..	1	2	..	2	..
,, 18..	30·161	74·6	48·0	61·3	57·0	·02	2	1	..	1	1	1	..	1	..
,, 25..	29·621	67·0	50·1	59·8	57·8	1·68	..	..	..	3	1	2	..	1	..
September 1..	30·146	74·2	47·5	58·2	57·3	·48	..	1	1	2	..	2	..	1	..
,, 8..	30·111	65·2	39·0	54·4	57·0	·00	1	2	..	1	..		..	3	..
,, 15..	30·211	70·5	45·0	56·7	56·5	·08	2	..	..	1	2	1	1	..	..
,, 22..	30·041	74·0	39·0	57·2	56·0	·25	1	..	..	1	2	1	1	1	..
,, 29..	29·696	64·0	43·6	55·5	56·0	·61	1	..	..	1	..	2	1	2	..
October 6..	29·600	62·0	38·0	51·5	55·3	1·13	1	..	..	..	1	4	1	..	..
,, 13..	29·920	67·6	42·0	55·3	54·3	·36	..	..	..	..	..	3	2	2	..
,, 20..	29·786	59·3	38·0	47·5	53·3	·90	4	..	..	2	..	..	..	1	..
,, 27..	29·867	56·3	33·4	46·5	52·1	·87	3	..	..	..	1	..	..	3	..
November 3..	29·756	60·1	40·8	50·4	51 3	·76	..	..	..	1	1	2	1	2	..
,, 10..	29·491	56·4	37·5	48·4	51·0	·45	..	..	..	..	2	1	..	4	..
,, 17..	29·431	54·4	36·2	44·6	50·4	1·17	..	1	..	1	..	3	1	1	..
,, 24..	29·575	46·8	30·4	40·2	48·6	·02	..	..	1	2	1	1	..	2	..
December 1..	29·317	50·6	36·1	51·2	Brok'n	·93	..	..	..	4	2	..	1	..	..
,, 8..	29·611	51·5	39·8	45·1	,,	1·22	..	..	..	2	..	2	1	2	..
,, 15..	29·902	57·0	40·0	49·5	,,	·55	..	..	..	..	..	2	3	2	..
,, 22..	29·822	58·0	37·0	45·3	,,	·17	..	..	..	..	1	3	1	2	..
,, 29..	29·461	57·4	29·0	42·4	,,	·75	..	..	..	2	1	2	..	2	..
Totals ..						33·02	27	25	23	63	29	63	49	85	..
Means ..	29·769	60·6	37·7	49·1	48·6										

RAINFALL

AT ECCLESTON HILL WATERWORKS FOR 30 YEARS.

	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880
January ..	·50	*	2·54	2·78	*	1·70	1·70	3·54	*	·49
February ..	·84	*	·27	·62	*	3·60	4·50	1·77	*	·80
March ..	·84	4·69	1·46	2·02	·63	2·34	2·43	1·13	1·42	1·37
April ..	2·42	2·91	1·88	1·01	·34	3·25	3·13	2·20	1·14	·66
May ..	1·45	1·27	1·85	1·44	2·30	·42	2·69	4·34	1·58	1·90
June ..	2·84	5·56	1·69	·96	3·80	2·61	1·07	3·32	3·10	2·15
July ..	4·07	7·46	3·53	2·65	3·26	2·74	5·32	1·40	4·53	5·82
August ..	1·53	2·72	3·01	3·24	3·35	3·50	6·16	4·87	5·15	2·38
September ..	2·93	7·03	1·52	2·43	5·65	3·96	3·01	5·06	3·77	2·90
October ..	4·81	5·40	4·24	4·26	5·81	2·90	3·46	3·94	2·07	3·13
November ..	1·08	2·73	2·31	4·50	4·10	4·96	2·50	3·94	·64	2·03
December ..	·02	3·97	·88	1·51	·78	4·38	2·90	*	·61	6·16
Totals ..	23·33	43·77	25·18	27·42	30·02	36·36	38·87	35·51	24·37	29·79

* Gauge broken.

	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
January ..	·08	2·72	2·58	3·51	1·78	3·99	0·98	0·93	0·65	3·17
February ..	4·17	1·73	3·38	2·33	2·35	0·80	0·61	0·61	1·53	0·19
March ..	2·41	2·15	·53	2·49	1·94	1·84	1·33	1·89	1·27	2·28
April ..	1·23	4·06	1·09	1·07	1·38	1·12	1·06	1·09	1·92	1·31
May ..	3·35	1·71	·68	0·82	2·14	4·25	2·03	0·66	2·47	1·58
June ..	2·60	6·07	2·90	2·11	3·32	1·68	0·91	2·54	0·35	2·27
July ..	3·47	5·27	3·32	3·30	1·91	3·03	1·17	6·87	2·98	2·43
August ..	6·60	4·41	2·25	2·02	1·98	1·74	1·50	3·31	4·75	3·67
September ..	2·46	3·10	6·41	3·09	4·58	3·47	5·36	1·56	2·25	1·48
October ..	3·14	3·00	5·81	1·49	5·99	4·05	2·37	1·85	2·84	2·09
November ..	2·91	3·43	2·60	1·57	3·18	3·04	1·17	4·98	2·49	6·41
December ..	4·30	2·12	1·65	3·12	2·18	4·00	2·61	1·89	2·39	0·14
Totals ..	36·72	39·77	33·20	26·92	32·73	33·01	21·10	28·18	25·89	27·02

	1891	1892	1893	1894	1895	1896	1897	1868	1899	**1900**
January ..	1·01	1·80	0·89	1·87	2·06	1·13	1·11	2·05	3·84	**4·29**
February ..	0·08	1·54	3·07	4·02	0·04*	1·54	2·35	1·91	1·82	**2·65**
March ..	0·76	0·73	0·77	2·21	0·89	2·94	2·09	0·73	2·34	*
April ..	1·95	1·15	0·39	1·59	1·74	1·48	2·27	1·40	3·27	**1·53**
May ..	2·13	3·36	1·30	2·48	0·54	0·51	1·33	3·88	3·28	**1·36**
June ..	3·39	4·08	1·74	2·23	0·82	3·83	3·52	2·87	2·03	**2·36**
July ..	3·26	3·20	3·32	3·66	3·72	1·92	1·15	0·52	2·37	**0·93**
August ..	6·50	4·15	2·79	4·77	3·31	3·18	4·88	4·54	1·49	**5·67**
September ..	2·92	3·80	3·85	0·72	1·17	6·28	4·90	1·28	4·17	**0·83**
October ..	3·49	6·25	2·18	3·79	5·13	3·18	1·88	4·55	3·03	**3·66**
November ..	2·92	2·44	1·88	2·56	2·65	1·31	4·61	2·42	0·56	**3·31**
December ..	3·93	1·96	3·55	3·44	2·88	4·56	3·99	2·84	1·89	**2·96**
Totals ..	32·34	34·84	25·73	33·34	25·35	31·86	34·08	28·99	30·09	**29·55**

* Rain Gauge out of order.

APPENDIX.

Showing the work done during 1900 in the erection of Buildings and the Paving and Sewering of Streets and Passages.

This information is supplied by

Mr. GEO. J. C. BROOM, M.I.C.E.,
Borough Engineer.

Plans Deposited, and Approved by the Health Committee.

	1892	1893	1894	1895	1896	1897	1898	1899	1900
For Dwelling-houses	401	563	310	253	310	329	386	284	**293**
,, Other Buildings	47	35	45	24	31	26	22	23	**21**
,, Alterations to Existing Buildings	29	59	73	48	44	40	46	47	**52**
Total	477	657	438	325	385	395	454	354	**366**

The following Table shows the several Wards of the Borough in which Buildings have been erected during the years mentioned:—

Year.	Eccleston North	Eccleston South	Windle North	Windle South	Sutton, East	Sutton, West	Central	Hardshaw	Parr	Total
1895	22	49	49	4	5	32	—	16	24	202
1896	15	63	57	12	6	36	—	12	43	244
1897	16	28	65	5	15	15	—	7	44	195
1898	40	28	99	14	40	15	—	48	40	324
1899	19	6	42	7	42	11	2	27	80	236
1900	**38**	**56**	**28**	**11**	16	9	—	**21**	**85**	**264**

STREETS.

Sewering.

Moss Bank-road and City-road. Jackson-street.

Sewering, Levelling, Paving, Flagging, and Channelling.

Birchley-street.
Halefield-street.
Brynn-street, from Cansfield-street to Clifton-street.
Tolver-street, from Birchley-street to Brynn-street.
Carnarvon-street
Cairne-street.
Roby-street.

Levelling and Paving.

Foundry-street, from Market-street to St. Mary-street.

Levelling, Paving, and Flagging.

Foundry-street, from St. Mary-street to Salisbury-street.

Sewering, Levelling, Paving, Macadamizing, Flagging, and Channelling.

Borough-road.

PASSAGES.

Levelling, Paving, and Channelling.

Passage rear of Carnarvon-street, Cairne-street, and Elephant-lane.
,, ,, Nos. 9 to 85, Harris-street, Nos. 2 to 80, Lingholme-road, and along gables No 47, Harris, and 42, Lingholme-road.
,, Along gable of No. 93, Harris-street.

Sewering, Levelling, Paving and Channelling.

Passage rear of Nos. 2 to 20, Charles-street.
,, ,, Nos. 2 to 20, Wellington-terrace, and No. 75, Cowley-street.
,, ,, Nos. 168 to 174, Duke-street.
,, between Halefield-street, Morley-street, Crab-street, and Chapel-street.
,, rear of Nos. 13 to 36, Cowley Hill-lane, and Nos. 16 to 36, Wolseley-road.
,, ,, Nos. 195 to 243, City-road.
,, ,, Nos. 1 to 37, and along gable No. 39, Tickle-street.
,, ,, Nos. 2 to 24, Traverse-street.
,, between Waterdale-crescent, Oxley-street, Robins-lane, and Garnet-street.
,, rear of Nos. 14 to 32, Johnson-street, and 5 to 17, Williamson-street.
,, between Derbyshire Hill-road and Brunswick-street.
,, ,, Francis-street, Eliza-street, Helena-road, and Lionel-street.
,, rear of Nos. 132 to 148, North-road, and Nos. 85 to 97, Oldfield-street.

Sewering, Levelling, Flagging, and Channelling.

Passage rear of Nos. 70 to 74, Lowe-street.
,, between Lyon-street, Raglan-street, Peter-street, and Campbell-street.

FOOTPATHS.

Flagging, Paving, and Channelling.

Robins-lane (Nos. 142 to 194).
Boundary-road (Nos. 148 to 162).
Do. (Queen's Recreation Ground).
Ellams Bridge-road (Schools).

Flagging and Paving.

Knowsley-road.

PUBLIC HIGHWAYS.

Paving.

Peter-street, from Westfield-street to Liverpool-road.
Do. from Wilson-street to Lyon-street.

Sewering, Levelling, Macadamizing, and Channelling.

Victoria-road.

STREETS DECLARED PUBLIC HIGHWAYS.

Speakman-road, from Tennis-street North to Hard-lane.
Frederick-street, from Tolver-street to Standish-street.
Tolver-street, from College-street to Frederick-street.
Sidney-street, from Cambridge road to Rivington-road.
Bronte-street, from Cambridge-road to Rivington-road.
Exeter-street, from Cambridge-road to Rivington-road.
Grafton-street, from Douglas-street to Rivington-road.
Douglas-street, from Knowsley-road to Devon-street.
Harrison-street, from Waterdale-crescent to Robin's lane.
Newton-street from Nelson-street to Robin's-lane.
Nelson-street, from Waterdale-crescent to Harrison-street.
Standish-street, from Frederick-street to a point 14 yards west of Hardshaw-street.

PASSAGES DECLARED PUBLIC HIGHWAYS.

Passage rear of Nos. 53 to 99, Grafton-street.
,, ,, Nos. 4 to 46, Grafton-street, and Nos. 1 to 47, Exeter-street.
,, ,, Nos. 2 to 84, Exeter-street, and Nos 3 to 77, Devon-street.
,, ,, Nos. 4 to 76, Devon-sereet, and Nos. 1 to 69, Bronte-street.
,, ,, Nos. 4 to 50, Bronte-street, and Nos. 1 to 23, Sidney-street.
,, between Tamworth-street, Hanover-street, Cambridge-road, and Sidney-street.
,, rear of Chapel-street, Argyle-street, and Windle-street.
,, ,, Alice-street and Lee-street.
,, ,, Nutgrove-road, Elephant-lane, and South-street.
,, ,, Nos. 2 to 82, Chancery-lane.
,, ,, Thatto Heath-road, Scholes-lane, and Stevens-street.

TABLE I.

TABLE SHOWING CERTAIN MORTALITY STATISTICS IN THE COUNTY BOROUGH OF ST. HELENS FOR THE YEARS 1890—1900.

Year.	Population estimated to Middle of each year.	Births.		Deaths under One Year of Age.		Deaths at all Ages. Total.		Deaths in Public Institutions.	Deaths of Non-residents registered in District.	Deaths of Residents registered beyond District.	Deaths at all Ages. Nett.	
		Number.	Rate.*	Number.	Rate per 1000 Births registered.	Number.	Rate.*				Number.	Rate.*
1890 ..	70132	2776	38·9	472	170	1784	25·4	181	90	50	1744	24·4
1891 ..	71666	2920	40·7	526	180	1865	26·0	214	115	76	1826	25·4
1892 ..	73240	2913	39·7	459	163	1505	20·5	145	80	98	1523	20·3
1893 ..	75390	3029	40·1	577	196	1769	23·4	161	54	78	1793	23·7
1894 ..	77690	2882	37·0	466	161	1400	18·0	159	77	78	1401	18·0
1895 ..	79490	3165	39·8	576	181	1674	21·0	195	88	105	1691	21·2
1896 ..	81136	3042	37·4	542	177	1668	20·4	194	110	85	1643	20·2
1897 ..	82910	3193	38·5	578	181	1746	21·0	189	102	99	1743	21·0
1898 ..	84730	3262	38·4	566	172	1641	19·3	198	119	93	1615	19·0
1899 ..	86588	3115	35·9	492	157	1700	19·6	217	125	107	1682	19·4
Averages for years 1890-1899	78279	3029	38·6	525	173	1675	21·4	185	96	86	1666	21·3
1900 ..	**88480**	**3100**	**35·03**	**584**	**188**	**1914**	**21·63**	**233**	**119**	**111**	**1906**	**21·5**

* Rates calculated per 1000 of estimated population.

Area of District in acres (exclusive of area covered by water) .. 7254 Acres.

Total population at all ages	72,413	At Census of 1891.
Number of inhabited houses	12,341	
Average number of persons per house	5·77	

TABLE II.

TABLE SHOWING CERTAIN MORTALITY STATISTICS, CLASSIFIED ACCORDING TO WARDS, IN THE COUNTY BOROUGH OF ST HELENS FOR THE YEARS 1890—1900.

NAMES OF LOCALITIES.	NORTH ECCLESTON.			SOUTH ECCLESTON.			CENTRAL.			NORTH WINDLE.			SOUTH WINDLE.		
YEAR.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population estimated at middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population estimated at middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population estimated at middle of each Year.	Deaths at all Ages.	Deaths under 1 year.
1890 ...	8921	218	79	6720	111	41	7829	237	76	6661	185	41	8803	249	68
1891 ...	8552	219	88	6639	134	44	8219	206	65	6517	147	44	8438	180	50
1892 ...	8752	176	73	6907	106	37	8273	165	50	6716	111	31	8513	184	73
1893 ...	8937	219	93	7104	120	39	8278	203	69	6733	133	39	8551	177	69
1894 ...	9286	165	74	7325	108	42	8321	125	50	8333	122	51	8580	134	53
1895 ...	9472	210	90	7739	114	44	8321	160	53	8747	161	64	8614	142	55
1896 ..	9579	187	88	8187	119	47	8321	170	50	9152	173	55	8699	161	57
1897 ...	9788	202	75	8366	140	53	8503	179	54	9352	180	58	8889	167	71
1898 ...	10003	218	95	8549	107	36	8690	138	48	9558	166	63	9084	140	51
1899 ...	10222	184	66	8736	128	45	8880	157	48	9768	147	39	9283	153	50
Averages of Years 1890 to 1899.	9351	199	82	7627	118	42	8363	174	56	8153	152	48	8745	168	59
1900 ...	**10453**	**227**	**91**	**8926**	156	**40**	**9073**	**179**	**56**	**9980**	**181**	**69**	**9484**	**170**	**61**

TABLE II.—Continued.

TABLE SHOWING CERTAIN MORTALITY STATISTICS—Continued.

NAMES OF LOCALITIES.	Hardshaw.			East Sutton.			West Sutton.			Parr.			Whole Borough.		
Year.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 Year.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 Year.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 Year.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 Year.	Population estimated to middle of each Year.	Deaths at all Ages.	Deaths under 1 Year.
1890 ...	8797	235	47	7735	132	36	7652	242	37	8160	175	47	71278	1784	472
1891 ...	9225	289	54	8250	170	54	7418	317	55	8030	203	72	71288	1865	526
1892 ...	9513	207	45	7815	136	35	8486	236	50	8265	184	65	73240	1505	459
1893 ...	9729	302	74	8120	164	48	8788	255	69	8600	196	77	74840	1769	577
1894 ...	9834	238	60	8981	132	35	8270	232	42	8760	144	59	77690	1400	466
1895 ...	9970	219	68	9031	157	43	8542	311	70	8964	200	89	79400	1674	576
1896 ...	10056	209	59	9074	154	38	8797	280	60	9270	215	88	81135	1668	542
1897 ...	10276	231	70	9272	157	42	8989	304	71	9475	186	84	82910	1746	578
1898 ...	10502	230	70	9475	147	51	9186	296	63	9683	199	89	84730	1641	566
1899 ...	10732	218	56	9683	173	51	9388	309	66	9896	231	71	86588	1700	492
Averages of Years 1890 to 1899.	9863	237	60	8743	152	43	8551	278	58	8910	193	74	78309	1675	525
1900 ...	**10966**	**231**	**63**	**9893**	**176**	**45**	**9593**	**338**	**64**	**10112**	**256**	**95**	**88480**	**1914**	**584**

TABLE III.

TABLE SHOWING NEW CASES OF INFECTIOUS SICKNESS, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH DURING THE YEAR 1900, IN THE ST. HELENS URBAN SANITARY DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

Notifiable Disease.	Cases Notified in Whole District.							Total Cases Notified in each Locality.									No. of Cases Removed to Hospital from each Locality.								
	At all Ages.	At Ages—Years.						North Eccleston.	South Eccleston.	Central.	North Windle.	South Windle.	Hardshaw.	East Sutton.	West Sutton.	Parr.	North Eccleston.	South Eccleston.	Central.	North Windle.	South Windle.	Hardshaw.	East Sutton.	West Sutton.	Parr.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.																		
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria .. Membraneous Croup	77	4	36	22	9	6	..	6	10	8	12	2	4	14	6	15	..	1	..	..	..	..	..	..	..
Erysipelas	138	3	7	11	24	83	10	15	9	7	11	11	22	18	14	31	..	..	..	..	..	..	..	..	..
Scarlet Fever	580	11	209	310	41	9	..	52	30	52	90	31	59	71	120	75	32	14	31	55	23	33	47	74	34
Typhus Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever ..	123	..	5	37	46	34	1	14	11	5	22	13	20	9	7	22	12	5	4	10	7	13	6	6	14
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever ..	1	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	15	..	..	..	3	12	..	1	2	..	1	1	4	..	3	3	..	..	..	..	..	..	..	1	..
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	934	18	257	381	123	144	11	88	62	72	136	59	109	112	150	146	44	20	35	65	30	46	53	81	48

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1900.

Causes of Death.	Deaths in whole District at subjoined Ages.							Deaths in Localities (at all Ages.									Deaths in Public Institutions.
	All Ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	North Eccleston.	South Eccleston.	Central.	North Windle.	South Windle.	Hardshaw	East Sutton.	West Sutton.	Parr.	
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	59	13	43	3	..	..	..	7	8	7	2	5	4	8	5	13	..
Scarlet Fever	25	2	17	4	2	..	..	..	1	..	1	..	3	1	16	3	13
Whooping-cough	56	25	30	1	..	..	..	11	2	2	2	4	6	10	7	12	..
Diphtheria and Membranous Croup	19	2	16	1	..	..	..	3	1	3	6	..	..	1	2	3	1
Croup	5	..	5	..	..	..	..	..	2	..	..	1	..	1	1	..	..
Fever — Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric	19	..	1	3	6	8	1	..	1	1	2	..	..	..	14	1	14
Other Continued	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	33	1	..	..	2	20	10	4	3	4	5	8	1	2	6	..	..
Cholera, Simple	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa	90	67	15	1	..	4	3	20	9	15	10	8	10	5	3	10	1
Enteritis	84	63	15	..	3	3	..	13	6	3	8	6	7	9	13	19	..
Puerperal Fever	9	..	..	..	1	8	..	1	1	..	..	1	1	..	4	1	1
Erysipelas	2	..	..	..	..	2	..	1	..	..	..	..	..	1	..	..	..
Other Septic Diseases	3	..	1	..	..	2	..	..	..	..	..	..	1	2	..	..	1
Phthisis	146	5	15	8	23	95	..	19	14	19	9	16	17	5	36	11	36
Other Tubercular Diseases	50	22	20	4	1	3	..	5	5	3	7	10	4	6	7	3	2
Cancer, Malignant Disease	46	..	..	..	..	31	15	5	4	4	8	6	7	4	5	3	4
Bronchitis	219	51	39	4	4	73	48	27	24	29	19	19	31	10	22	38	7
Pneumonia	192	31	46	10	13	78	14	15	11	16	15	10	20	30	51	24	39
Pleurisy	7	..	2	..	..	4	1	1	..	..	2	..	..	2	1	1	..
Other Diseases of Respiratory Organs	21	6	9	1	..	4	1	5	3	..	1	4	3	1	3	1	2
Alcoholism, Cirrhosis of Liver	18	..	..	..	..	16	2	..	1	3	4	1	2	4	..	3	1
Venereal Diseases	2	1	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..
Premature Birth	59	59	..	..	..	..	..	10	1	4	11	6	6	3	5	13	..
Diseases and Accidents of Parturition	20	..	..	..	2	18	..	1	..	..	3	3	4	5	3	1	1
Heart Diseases	100	4	1	4	7	66	18	7	10	6	9	8	18	13	18	11	13
Accidents	46	1	9	7	8	18	3	1	2	1	3	1	10	9	8	11	12
Suicides	5	..	..	..	..	5	..	1	..	..	1	..	1	..	1	1	1
All other causes	578	231	49	24	15	167	92	69	47	57	52	53	75	44	107	82	84
All causes	1914	584	334	75	87	626	208	227	156	179	181	170	231	176	338	256	233

TABLE C.—Deaths Registered in the St. Helens Urban Sanit

CAUSE OF DEATH.	WEEKS.													Total for 1st Quarter	WEEKS.									
	1	2	3	4	5	6	7	8	9	10	11	12	13		14	15	16	17	18	19	20	21	22	23
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	5	5	5	4	2	2	3	..	2	1	3	2	..	34	3	2	1	..	3	..	3	..	2	..
Scarlet Fever	..	..	..	..	..	1	..	..	1	..	..	..	1	3	2	..	1	..	1	1	..	..	1	1
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	2	..	2	3	1	1	1	1	1	..	..	12	1	..	2	1	1	1	1	2	1	2
Diphtheria	..	..	..	..	..	..	..	..	1	..	1	1	2	5	..	1	..	..	..	..	..	..	..	..
Simple or Continued Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	1	1	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	1	..	1
Influenza	1	..	2	1	1	3	4	5	5	1	1	..	..	24	..	..	1	..	..	..	..	1	..	..
Other Zymotics	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Simple Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa	..	1	..	..	..	..	..	..	..	..	..	1	1	3	1	..	..	1	..	..	..	..	..	1
Dysentery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Remittent Fever and Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia, Anthrax, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphilis, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Pyæmia, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Puerperal Fever	..	..	..	1	..	..	..	..	1	..	1	..	..	3	1	..	2	..	..	..	..	..	..	..
Thrush, &c.	..	..	..	1	..	..	1	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..
Want of Breast Milk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic Alcoholism	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	..	..	..	1	..	..	..	..	2	..	..	..	..	3	..	..	..	..	..	1	..	..	..	..
Gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ricketts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cancer, &c.	2	1	..	1	2	..	2	..	..	3	1	1	2	15	1	2	2	..	3	2	..	1	..	..
Tabes Mesenterica	..	..	..	1	..	..	..	1	..	2	..	1	..	5	..	1	..	1	1	..	4	1	..	..
Tubercular Meningitis	1	..	..	..	..	..	..	..	..	..	..	1	..	2	1	..	..	..	..	..	..	..	..	..
Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phthisis	9	3	1	3	1	4	3	7	5	2	2	1	1	42	1	5	3	3	2	2	5	1	4	5
Scrophula	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	..	..	1	..	..	1
Anæmia, Diabetes, &c.	..	2	..	..	..	..	1	2	3	..	..	..	..	8	..	1	..	..	..	1	..	..	..	..
Premature Birth, &c.	1	..	1	2	2	..	3	..	1	1	3	5	2	21	..	1	..	3	2	..	1	..	1	2
Old Age	1	..	1	2	..	2	4	5	1	3	2	..	4	25	2	..	1	..	3	..	..	..	..	1
Diseases of Nervous System	6	3	5	2	2	2	4	4	1	3	6	3	2	43	5	1	1	2	4	4	2	3	1	4
Convulsions	2	3	3	3	4	1	1	1	1	2	1	..	2	24	3	2	..	1	1	..	1	2	2	1
Eye, Ear, and Nose	1	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Laryngitis, Croup, &c.	..	..	..	1	..	1	..	..	1	2	1	..	1	7	1	..	1	..	..	1	1	..	..	1
Bronchitis	5	8	7	7	3	13	12	14	8	5	8	7	9	106	10	7	4	3	4	3	3	5	3	2
Pneumonia	5	4	5	7	4	6	6	5	7	6	8	5	3	71	2	5	3	4	2	4	5	4	5	4
Pleurisy	..	..	..	..	..	..	1	..	..	..	..	..	1	2	..	1	1	..	..	..	..	..	..	1
Heart and Blood Vessels	..	1	..	..	2	3	5	6	..	1	1	3	3	25	5	2	5	2	1	2	2	4	1	2
Dentition	..	..	1	..	..	..	1	..	..	1	..	..	1	4	..	1	1	..	..	..	..	..	..	..
Diseases of Digestive System	1	..	3	2	1	1	1	1	1	1	2	3	4	21	1	5	3	..	3	1	3	2	..	1
Lymphatics and other Glands	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
Urinary System	1	..	1	..	1	..	1	1	..	..	..	..	1	6	2	1	..	1	..	1	1	..	1	1
Generative Organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Abortion or Childbirth	3	..	..	1	..	..	..	..	..	..	..	1	2	7	..	1	1	..	..	..	..	..	..	..
Diseases of Bones	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
Diseases of Skin	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Accidental Violence	..	1	..	1	..	1	..	..	2	2	..	..	1	8	2	..	1	1	1	2	..	2	..	..
Homicidal Violence	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suicidal Violence	..	..	..	1	..	..	..	..	..	..	1	..	..	2	..	..	1	..	..	..	1	..	..	..
Dropsy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Debility and Atrophy	..	1	1	1	1	1	3	3	2	3	..	4	1	21	..	..	..	..	2	2	1	1	..	1
Marasmus	2	..	..	..	1	1	1	2	1	1	1	2	1	13	..	2	..	2	1	..	..	1	1	1
Mortification	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..
Tumour	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hœmorrhage	..	..	..	..	..	..	..	1	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..
Sudden Death, cause unknown	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other causes, not specified	..	1	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Males	26	23	24	21	19	26	32	27	24	23	21	23	24	313	22	21	18	13	23	17	17	17	11	18
Females	22	12	15	22	10	19	28	33	24	18	24	19	22	268	26	20	19	12	14	11	19	14	12	15
Total	48	35	39	43	29	45	60	60	48	41	45	42	46	581	48	41	37	25	37	28	36	31	23	33

istrict, in weeks, during the year ending December 29th, 1900.

6	Total for 2nd Quarter	WEEKS.													Total for 3rd Quarter	WEEKS.													Total for 4th Quarter	Total for YEAR.
		27	28	29	30	31	32	33	34	35	36	37	38	39		40	41	42	43	44	45	46	47	48	49	50	51	52		
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
.	16	..	1	1	1	1	2	..	..	2	..	1	..	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	59
.	9	..	..	..	1	..	..	1	..	..	1	1	1	1	6	..	..	1	..	..	..	..	1	1	2	1	..	1	7	25
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	17	1	3	2	3	..	1	1	2	..	..	1	2	1	17	..	..	..	..	1	..	..	2	2	2	..	2	1	10	56
.	1	..	..	1	..	..	..	1	..	1	1	..	1	..	5	..	..	..	..	1	1	1	1	..	2	..	2	..	8	19
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
.	3	1	1	..	..	..	1	..	..	..	2	..	1	1	7	1	..	..	2	1	1	..	2	..	..	..	..	..	7	19
.	3	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	1	..	..	..	..	..	1	1	..	..	5	33
.	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
.	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
.	4	1	..	3	9	11	11	12	7	9	4	5	2	3	77	3	..	1	..	..	1	..	..	1	..	..	..	..	6	90
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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.	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
.	1	..	1	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
.	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	2	9
.	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
1	2	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	4
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2	3
.	1	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	1	..	..	2	8
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
1	14	1	..	..	1	..	..	2	..	..	..	..	..	..	4	2	1	1	..	2	..	..	1	1	2	2	..	1	13	46
1	9	1	..	..	1	1	1	..	..	..	2	..	1	..	7	1	2	1	1	..	..	1	1	1	..	1	1	..	10	31
.	2	1	2	..	..	1	..	1	..	..	..	..	..	..	5	..	1	..	..	..	1	..	1	1	..	..	..	..	4	13
.	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4	36	1	2	6	3	2	1	3	2	2	5	2	3	2	34	4	..	2	2	4	2	2	5	4	3	2	1	3	34	146
.	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
.	2	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	12
1	13	1	3	..	..	2	1	1	1	1	3	..	2	..	15	1	1	..	2	1	1	..	..	..	1	1	2	2	12	61
.	8	..	1	..	2	3	..	..	3	2	..	1	..	1	13	..	3	1	..	2	..	3	1	2	1	3	2	..	18	64
2	36	3	2	7	4	4	1	1	2	4	5	1	4	1	39	2	5	..	2	4	6	..	6	4	5	4	3	2	43	161
.	14	3	2	1	..	2	1	3	..	2	1	..	2	..	17	1	1	1	2	2	1	1	2	1	1	1	2	2	18	73
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	3
.	6	..	..	1	..	1	..	..	..	..	1	..	1	..	4	..	..	..	1	..	..	..	..	..	..	2	1	..	4	21
5	57	3	..	2	1	..	1	2	2	1	4	2	2	3	23	2	1	3	3	1	2	5	2	5	2	2	1	4	33	219
3	56	1	5	2	2	2	5	2	5	2	2	1	3	..	32	2	4	1	6	4	..	3	..	2	1	4	1	5	33	192
.	3	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	7
1	30	1	3	2	4	1	3	2	1	2	3	3	2	2	29	1	2	2	..	1	3	2	..	..	2	..	2	1	16	100
1	4	..	..	..	..	..	2	..	..	1	..	..	1	..	4	..	1	..	2	1	..	..	..	1	..	..	..	1	6	18
..	25	4	4	6	9	6	9	4	2	6	3	7	6	7	73	3	8	6	3	1	2	4	2	1	6	2	..	1	39	158
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
1	10	1	2	..	1	..	..	..	2	..	..	..	..	1	7	..	..	..	..	..	..	1	..	..	..	..	..	..	1	24
..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	3	..	..	..	1	1	..	2	..	..	..	1	1	..	6	..	..	..	..	..	1	1	..	..	..	1	1	..	4	20
..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	4
..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	2	3
..	12	1	2	1	..	1	2	4	..	2	2	..	..	..	15	2	2	1	..	1	1	..	1	..	..	..	1	2	11	46
..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	10	3	..	1	1	4	..	..	2	4	3	2	4	2	26	2	..	3	..	..	1	1	1	2	..	2	1	..	13	70
2	11	2	2	2	1	..	2	..	1	2	2	2	2	4	22	..	..	1	4	1	2	..	..	1	1	1	..	1	12	58
..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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9	228	23	17	18	29	23	25	19	17	22	24	15	24	16	272	16	18	14	15	18	14	14	17	16	12	20	10	12	196	1009
16	206	9	19	20	17	20	22	25	19	23	20	18	17	14	243	13	17	14	16	11	14	13	13	14	21	12	14	16	188	905
25	434	32	36	38	46	43	47	44	36	45	44	33	41	30	515	29	35	28	31	29	28	27	30	30	33	32	24	28	384	1914

Table D.

MORTALITY STATISTICS for Year ending December 29th, 1900, showing Age at Death, and Ward.

DISEASES.	AGES AT DEATH.																		WARDS.									
	0 to 3 ms	3 to 6 ms	6 to 12 ms	1 to 2 yrs	2 to 3 yrs	3 to 4 yrs	4 to 5 yrs	5 to 10 yrs	10 to 15 yrs	15 to 20 yrs	20 to 25 yrs	25 to 35 yrs	35 to 45 yrs	45 to 55 yrs	55 to 65 yrs	65 to 75 yrs	75 to 85 yrs	Upwards of 85 years	Eccleston North	Eccleston South	Central	Windle North	Windle South	Hardshaw	Sutton East	Sutton West	Parr	Whole Borough
Zymotic Diseases																												
(*a*) Miasmatic Diseases																												
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	1	1	11	25	12	4	2	3	..	..	..	..	..	..	..	..	..	..	7	8	7	2	5	4	8	5	13	59
Scarlet Fever	..	..	2	7	4	4	2	4	..	2	..	..	..	..	..	..	..	..	..	1	..	1	..	3	1	16	3	25
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	3	3	19	21	2	2	5	1	..	..	..	..	..	..	..	..	..	..	11	2	2	2	4	6	10	7	12	56
Diphtheria	..	..	2	6	3	5	2	1	..	..	..	..	..	..	..	..	..	..	3	1	3	6	..	..	1	2	3	19
Simple, Continued, or Ill-Defined Fever.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	..	1	..	..	..	3	..	3	3	4	1	..	3	1	..	..	..	1	1	2	..	..	..	14	1	19
Influenza	..	..	1	..	..	..	..	..	..	..	2	5	..	6	9	9	1	..	4	3	4	5	8	1	..	2	6	33
Other Miasmatic Diseases	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
(*b*) Diarrhœal Diseases																												
Simple Cholera	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Diarrhœa	17	23	27	11	3	..	1	1	..	..	..	..	..	2	2	2	1	..	20	9	15	10	8	10	5	3	10	90
Dysentery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*c*) Malarial Diseases																												
Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*d*) Zoogenous Diseases																												
Cow Pox and Effects of Vaccination ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia, Glanders, & Splenic Fever.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

TABLE D—Continued.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
(*e*) Venereal Diseases																												
Syphilis	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	2
Gonorrhea and Stricture, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*f*) Septic Diseases																												
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..	1	..	..	2
Pyaemia and Septicaemia	..	..	..	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	2	..	..	3
Puerperal Fever	..	..	..	..	..	..	..	..	..	..	1	6	2	..	..	..	..	..	1	1	..	..	1	1	..	4	1	9
Parasitic Diseases																												
Thrush and other Vegetable Parasites ..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	3
Worms, Hydatids, & Animal Parasites ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dietic Diseases																												
Want of Breast Milk	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	4
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic Alchoholism	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	2
Delirium Tremens	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Constitutional Diseases																												
Rheumatic Fever & Rheumatism of Heart	..	..	..	..	..	..	..	1	..	..	1	1	3	..	..	..	..	..	..	..	..	..	1	3	2	..	..	6
Rheumatism	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	1	2
Gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	1
Rickets	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Cancer and Malignant Diseases	..	..	..	..	..	..	..	..	..	..	..	1	3	11	16	11	4	..	5	4	4	8	6	7	4	5	3	46
Tabes Mesenterica	2	8	8	9	..	.	..	2	..	..	..	1	1	..	..	..	..	..	3	5	3	4	6	..	4	5	1	31
Tubercular Meningitis	1	1	2	5	2	2	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	3	4	1	1	..	13
Hydrocephalus	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Phthisis	1	1	3	8	2	2	3	4	4	5	18	41	29	21	4	..	..	..	19	14	19	9	16	17	5	36	11	146
Scrofula and other Tubercular Diseases.	..	..	..	..	..	..	1	..	2	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1	1	2	5
Purpura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anœmia, Chlorosis	..	..	..	..	..	..	..	..	..	1	..	1	1	2	..	..	..	..	..	1	..	..	..	2	..	2	..	5
Diabetes	..	..	..	..	..	..	..	..	..	1	..	2	..	1	2	1	..	..	..	..	1	3	..	2	1	..	..	7
Other Constitutional Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE D—Continued.

DISEASES.	AGES AT DEATH.																		WARDS.									
	0 to 3 ms	3 to 6 ms	6 to 12 ms	1 to 2 yrs	2 to 3 yrs	3 to 4 yrs	4 to 5 yrs	5 to 10 yrs	10 to 15 yrs	15 to 20 yrs	20 to 25 yrs	25 to 35 yrs	35 to 45 yrs	45 to 55 yrs	55 to 65 yrs	65 to 75 yrs	75 to 85 yrs	Upwards of 85 years.	Eccleston North.	Eccleston South.	Central.	Windle North.	Windle South.	Hardshaw.	Sutton East.	Sutton West.	Parr.	Whole Borough.
Developmental Diseases																												
Premature Birth	57	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	1	4	11	6	6	3	5	13	59
Congenital Malformation	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	2
Old Age	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	27	20	8	9	6	14	6	6	10	1	9	3	64
Local Diseases																												
(*a*) Nervous Diseases																												
1. Inflammation of Brain or Membranes.	1	2	13	6	3	..	3	5		..	1	1	1	..	..	..	..	..	3	3	2	1	8	3	6	5	8	39
2. Apoplexy, Softening of Brain ..	1	..	..	..	..	..	..	..	..	..	2	2	6	12	16	17	4	..	2	6	8	7	5	5	6	13	8	60
3. Insanity..	..	..	..	..	..	..	..	..	..	..	..	5	22	13	3	..	..	..	..	2	..	..	..	..	..	41	..	43
4. Epilepsy	..	..	..	..	..	..	..	1	..	..	2	2	..	3	1	..	..	..	..	..	2	1	1	..	1	4	..	9
5. Convulsions	33	11	13	8	3	1	..	1	1	1	..	1	..	..	..	..	..	..	13	5	5	4	11	8	9	10	8	73
6. Laryngismus St.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Diseases of Spinal Cord, P. A. and Paraplegia	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	..	..	1	..	..	..	..	1	..	2	..	4
8. Other Diseases of Nervous System ..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	3	..	..	3	..	2	..	..	..	..	1	..	6
(*b*) Diseases of Special Sense																												
Eye, Ear, and Nose	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	3
(*c*) Diseases of Respiratory System																												
Laryngitis	..	..	1	1	1	1	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	1	1	..	1	..	5
Croup	..	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	1	1	..	5
Emphysema and Asthma	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	1	..	..	..	..	..	..	..	2
Bronchitis	14	19	18	28	7	3	1	3	1	2	2	3	8	25	37	27	11	..	27	24	29	19	19	31	10	22	38	219
Pneumonia..	7	6	18	30	8	6	2	9	1	6	7	11	24	23	20	10	4	..	15	11	16	15	10	20	30	51	24	192
Pleurisy	..	..	..	2	..	..	..	..	..	..	..	2	1	..	1	..	1	..	1	..	..	2	..	..	2	1	1	7
Other Respiratory Diseases	5	..	..	1	..	..	..	1	..	..	..	1	..	1	..	..	..	..	2	..	..	1	2	2	..	1	1	9
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

TABLE D—CONTINUED.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
(*d*) DISEASES OF CIRCULATORY SYSTEM																												
Pericarditis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	2
Endocarditis acute	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Valvular Diseases of Heart	1	..	1	..	..	..	..	1	2	5	1	11	6	17	20	12	3	..	6	7	6	7	7	15	10	15	7	80
Other Diseases of Heart	2	..	..	..	..	..	..	1	..	..	..	1	..	4	1	2	..	..	..	2	..	1	..	1	2	1	4	11
Aneurism	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	1	1	1	..	3
Embolism or Thrombosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of Blood Vessels	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	1	..	..	..	..	1	..	1	..	3
(*e*) DISEASES OF DIGESTIVE SYSTEM																												
Dentition	..	1	10	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	2	3	2	..	..	3	1	..	18
Sore Throat, Quinsey	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	3
Diseases of Stomach	4	3	7	2	..	1	..	1	..	..	..	..	2	3	2	..	..	..	3	2	1	3	2	7	2	1	4	25
Enteritis	11	22	30	13	..	..	2	..	..	1	2	1	..	2	..	..	..	..	13	6	3	8	6	7	9	13	19	84
Obstruction Diseases of Intestines	..	..	..	..	..	..	..	..	..	..	..	..	1	1	3	1	1	..	1	1	..	1	1	..	2	..	1	7
Peritonitis	..	..	..	..	..	..	1	1	1	1	..	2	1	..	..	..	..	..	1	2	1	1	2	..	..	..	..	7
Ascites	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cirrhoses of Liver	..	..	..	..	..	..	..	..	..	..	..	1	7	4	2	2	..	..	..	1	1	4	1	2	4	..	3	16
Jaundice and other Diseases of Liver	2	..	..	..	..	..	..	..	..	..	..	1	3	2	4	..	..	..	1	1	..	1	..	5	1	..	3	12
Other Diseases of Digestive System	1	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	1	1	4
(*f*) DISEASES OF LYMPHATIC SYSTEM																												
Lymphatics, &c.	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2
(*g*) DISEASES OF OTHER GLANDS																												
Bronchocele	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Addison's Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*h*) DISEASES OF URINARY SYSTEM																												
Nephritis	..	..	1	1	..	..	1	1	..	2	..	2	3	..	1	3	1	..	1	1	1	..	2	3	2	1	4	15
Bright's Diseases, Albuminuria	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	1	..	..	1	..	..	1	1	..	1	1	..	5
Disease of Bladder and Prostate	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	1	2	..	3
Other Diseases of Urinary System	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	1

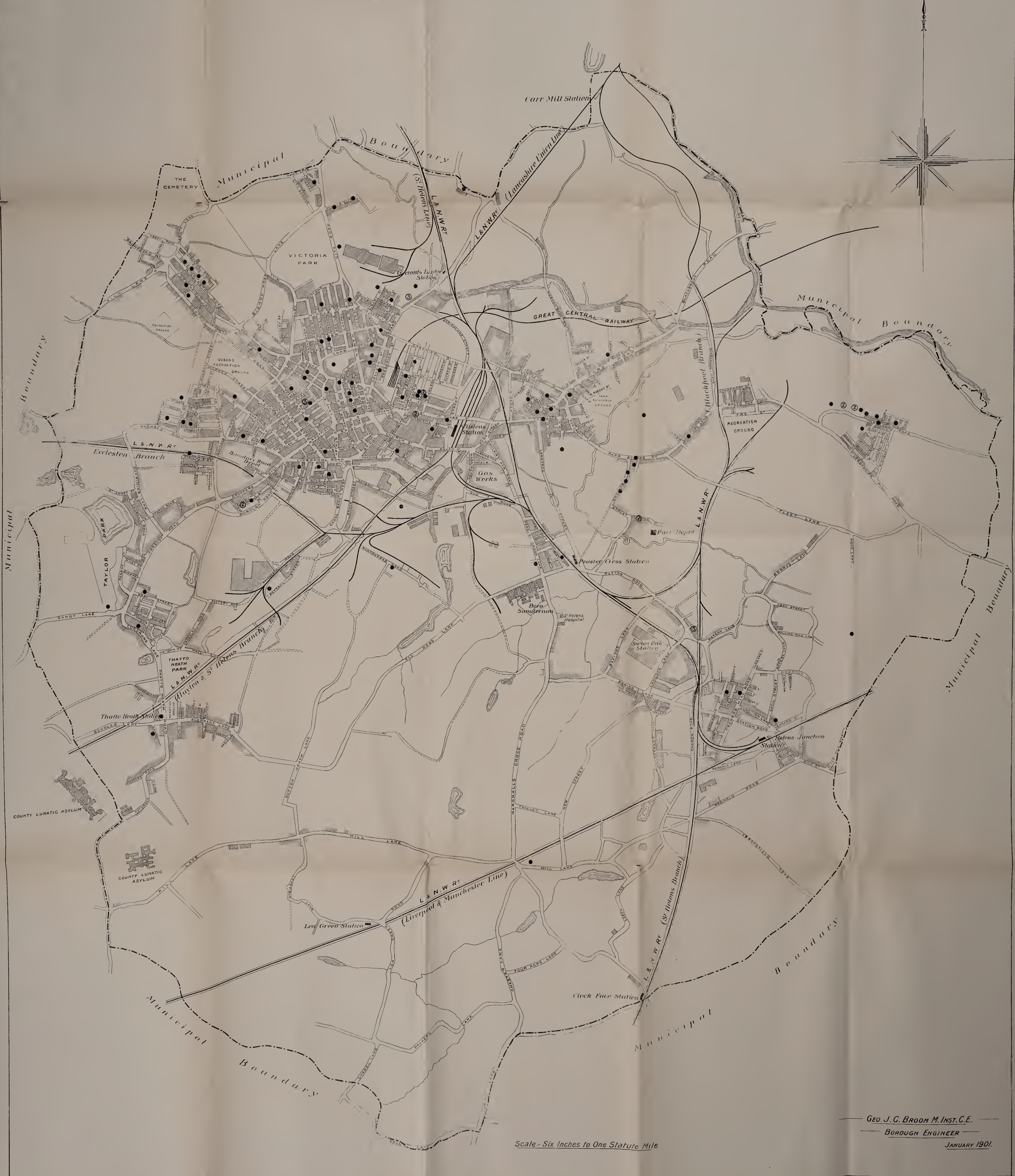
TABLE D—Continued.

DISEASES.	AGES AT DEATH.																		WARDS.									
	0 to 3 ms	3 to 6 ms	6 to 12 ms	1 to 2 yrs	2 to 3 yrs	3 to 4 yrs	4 to 5 yrs	5 to 10 yrs	10 to 15 yrs	15 to 20 yrs	20 to 25 yrs	25 to 35 yrs	35 to 45 yrs	45 to 55 yrs	55 to 65 yrs	65 to 75 yrs	75 to 85 yrs	Upwards of 85 years	Eccleston North	Eccleston South	Central	Windle North	Windle South	Hardshaw	Sutton East	Sutton West	Parr	Whole Borough
(*i*) Diseases of Reproduction System																												
Of Male Organs	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Of Female Organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Abortion and Miscarriage	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2
Puerperal Convulsions	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Placenta Praevia	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Accidents of Childbirth	..	..	..	..	..	..	..	..	..	1	..	9	6	..	..	..	..	..	1	..	..	2	3	2	4	3	1	16
(*k*) Diseases of Bones and Joints																												
Caries and Necrosis	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	2
Arthritis, Ostitis, Periostitis	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Other Diseases of Bones and Joints ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*l*) Diseases of Integruments																												
Carbuncle, Phlegmon	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of Integumentary System	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	3
Deaths from Violence																												
(*a*) Accident or Negligence																												
Fractures and Contusions	..	1	..	1	1	..	..	1	1	3	3	5	4	4	1	2	..	..	1	..	1	1	1	4	5	8	6	27
Gunshot Wounds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cuts or Stabs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burns or Scalds	..	..	..	..	3	2	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	1	..	4	2	..	1	8
Poison	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drowning	..	..	..	..	1	1	..	2	2	..	2	1	..	..	1	1	..	..	..	2	..	1	..	2	2	..	4	11
Suffocation (Gassed)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otherwise	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

TABLE D—CONTINUED.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
(*b*) HOMICIDE.																												
Manslaughter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murder	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
(*c*) SUICIDE.																												
Gunshot Wounds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cut, Stab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poison	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drowning	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	1	..	..	1	..	1	..	..	..	3
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	1	2
Otherwise	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deaths from Ill-Defined and not Specified Causes																												
Dropsy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Debility-Atrophy	45	10	7	1	..	..	..	2	..	..	..	..	1	1	2	1	..	..	14	5	10	10	7	9	1	4	10	70
Marasmus	17	17	14	7	2	1	..	..	..	..	..	..	..	..	..	..	..	..	8	5	6	7	5	10	..	8	9	58
Mortification	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	1	..	..	1	..	1	..	..	..	3
Tumour	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Abscess	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	2
Hæmorrhage	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	2
Sudden Death (cause not known)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other causes not specified	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	..	1	1	..	..	1	..	..	3
SUMMARY																												
ZYMOTIC DISEASES	22	27	62	74	24	15	12	13	..	5	6	17	4	10	14	12	2	..	48	26	33	29	26	26	28	53	50	319
PARASITIC DO.	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	3
DIETIC DO.	1	2	1	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	1	2	..	..	2	..	..	2	7
CONSTITUTIONAL DO.	4	10	13	22	4	6	4	7	6	8	19	47	37	36	23	13	5	..	29	25	27	27	33	35	20	50	18	264
DEVELOPMENTAL DO.	58	3	..	..	..	..	..	..	..	..	..	..	..	..	9	27	20	8	19	8	18	17	12	16	5	14	16	125
LOCAL DO.	86	66	114	104	25	14	9	26	12	20	20	60	99	115	121	89	26	..	106	82	80	84	86	120	112	198	138	1006
DEATHS FROM VIOLENCE	..	1	..	1	5	3	..	3	4	3	5	9	5	6	4	3	..	..	2	2	1	4	1	11	9	10	12	52
ILL-DEFINED OR NOT SPECIFIED	64	27	21	8	2	1	..	4	..	1	..	..	1	2	4	3	..	..	23	11	18	20	12	20	2	12	20	138
TOTALS	237	136	211	209	61	39	25	53	22	37	50	133	147	171	175	147	53	8	227	156	179	181	170	231	176	338	256	1914

MAP OF THE COUNTY BOROUGH OF S^T. HELENS.



Scale - Six Inches to One Statute Mile

Geo J. G. Broom M. Inst. C.E.
Borough Engineer
January 1901.